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ABSTRACT

This copiously illustrated guide is a single reference source for the diverse employment and training opportunities in the Army, Navy, Air Force, Marine Corps, and Coast Guard. It is divided into two major sections. The first section contains descriptions of 134 enlisted military occupations and provides information regarding the aptitudes needed for each. Students who have taken the Armed Services Vocational Aptitude Battery (ASVAB) can use their scores to determine their chances of qualifying for these military occupations. Enlisted military occupations are categorized under human services; media and public affairs; health care; engineering, science, and technical; administrative; service; vehicle and machinery mechanic; electronic and electrical equipment repair; construction; machine operator and precision work; transportation and material handling; and combat specialty. The second section was added to the guide in response to requests from educators who used the 1985 edition that contained only the first section. The new section contains descriptions of 71 military officer occupations. Military officer occupations are categorized under executive, administrative, and managerial; human services; media and public affairs; health diagnosing and treating practitioner; health care; engineering, science, and technical; service; transportation; and combat specialty. Four indexes are provided: civilian counterparts to the 205 military occupations listed in numerical order by Dictionary of Occupational Titles (DOT) number; civilian counterparts grouped under corresponding military occupations and listed according to their DOT codes; the 134 military enlisted occupations groups under the 4 ASVAB occupational groups; and an alphabetical title index of occupational titles that represent military occupations described in the guide. (CML)

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Military Career Guide

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Military Career Guide

Employment and Training Opportunities in the Military

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Foreword

To attract approximately 325,000 new officers and enlisted members each year, the Department of Defense must rely on educators to help convey military labor market information to youth. To accomplish this task, educators need to provide students with opportunities to explore the military world-of-work in the same ways that students explore civilian careers. The *Military Career Guide* is a compendium of military occupational and training information, designed for use by students to explore military careers.

The *Military Career Guide* is a single reference source for the diverse employment and training opportunities in the Army, Navy, Air Force, Marine Corps, and Coast Guard. The book is divided into two major sections. The first section contains descriptions of 134 enlisted military occupations and provides information regarding the aptitudes needed for each; students who have taken the Armed Services Vocational Aptitude Battery (ASVAB) can use their scores to determine their chances of qualifying for these military occupations. The second section contains descriptions of 71 military officer occupations. The officer information is new to the 1988-89 edition of the *Military Career Guide*. It was added in response to the many requests received from educators after using the 1985 edition, which included only enlisted occupational information.

Many school counselors, educators, job analysts, testing specialists, and career information developers from both civilian and military settings assisted in the development of the *Military Career Guide*. In particular, the following individuals were members of an advisory committee that provided the Department of Defense with guidance on how to develop the 1985 edition of the *Military Career Guide*. These advisors were: Mr. Ralph Allyn, Mr. Joseph Corbett, Mr. Robert Dickman, Mr. Robert Droege, and Mr. Michael Pilot, U.S. Department of Labor; Mr. Curtis Baker and Mr. Daryl Nichols, U.S. Department of Education; Ms. Anne Coates-Radloff, Ferguson-Florissant Schools, Missouri; Dr. John Dagley, University of Georgia; Dr. Jane Goodman, Oakland University, Michigan; Dr. George Grisdale, Oakland County Schools, Michigan; Dr. Carl McDaniels, Virginia Polytechnic Institute and State University; Mr. Al MacKinnon, New York State Department of Education; Dr. Elton Mendenhall, Nebraska Career Information System; Ms. Eleanor Morgenthau, Florida Occupational Information Coordinating Committee; Dr. Roger Myers, Columbia University, New York; Dr. Jacob See, Owens Technical College, Ohio; Dr. Mary Louise Simms, Alabama Occupational Information Coordinating Committee; and Mrs. Helen Washburn and Dr. Joseph McDonough, American Association for Counseling and Development, Washington, D.C.

Since that time, many individuals have provided the Department of Defense with assistance on the development of this revised book. Policy oversight for the development of the 1988-89 edition of the *Military Career Guide* was provided by a Steering Committee. Members of the group included Dr. W.S. Sellman, Office of the Assistant Secretary of Defense (Force Management and Personnel); Colonel James Jewel, Headquarters, Department of the Army; Dr. Dan Stabile, Office of the Chief of Naval Operations; Lt. Colonel Thomas Copeland, Headquarters, U.S. Air Force; Dr. Douglas Davis, Headquarters, U.S. Marine Corps; Mr. Kenneth Scheflen, Defense Manpower Data Center; and Ms. Juliette Noone Lester, National Occupational Information Coordinating Committee. Their efforts on behalf of this project are appreciated.

The *Military Career Guide* was developed under the technical supervision of a working group. Chaired by Dr. Anita Lancaster, Office of the Assistant Secretary of Defense (Force Management and Personnel), members of this group were Ms. Yvonne Stephens, Soldier Support Center, Department of the Army; Mr. Doit Shotts, Naval Military Personnel Command; Mr. Larry Burns, Navy Recruiting Command; Captain Michael Begley, Air Force Military Personnel Center; Ms. Nelvin Thibodeaux, Headquarters, U.S. Marine Corps; Mr. Dennis Gaynor, U.S. Military Entrance Processing Command; Mr. Richard Lanterman and Dr. Robert Frey, Headquarters, U.S. Coast Guard; Ms. Cynthia Carroll, Defense Manpower Data Center; and Dr. Harvey Ollis, National

Occupational Information Coordinating Committee. We are grateful for their careful scrutiny of the draft manuscripts. We also appreciate the review and guidance provided by Ms. Beth Simon, U.S. Military Entrance Processing Command and Mr. Mason Carl, Office of the Secretary of Defense Graphics Department, for the graphic design of the *Military Career Guide*. In addition, Mr. Jack Arthur, Creative Presentations Inc., was the cover artist.

Technical guidance for the development of the graphs in the *Military Career Guide*, linking ASVAB results with the probability of qualifying for military occupations, was provided by Dr. Malcolm Ree and Major John Welsh, Air Force Human Resources Laboratory. Dr. Jerome Lehnus and Ms. Elaine Sellman of the Defense Manpower Data Center provided statistical and programming support.

Under contract to the Department of Defense for this effort were occupational information development experts from Booz, Allen & Hamilton Inc. and the Texas Employment Commission. Mr. Gregg Wright of Booz, Allen has been the project manager for both the 1985 and 1988-89 editions of the *Military Career Guide*. His leadership deserves special recognition. The contributions of Mr. Paul Myers, Mr. Brian Rubenking, Mr. Clyde Lutter and Mr. Jeffrey Worst, Booz, Allen analysts, are gratefully acknowledged. Ms. Sharon Light performed the computer graphics layout and typesetting. We are also deeply appreciative of the work conducted by the civilian occupational analysts at the Texas Employment Commission. These individuals established the occupational linkages between the military and civilian worlds-of-work and wrote the draft narrative for the occupational sections of this book. Under the supervision of Mr. Larry Hunt and Mr. Gerald Rimmer, these analysts were Mr. Joseph Bateman, Jr., Mr. Abram DeAses, Ms. Ann Dosch, Ms. Johnna Goodson, Mr. Don Hill, Mr. Kenneth Keil, and Mr. John Olrech III.

Finally, this publication is dedicated to the memory of Mr. Russell B. Flanders, former Executive Director of the National Occupational Information Coordinating Committee. Mr. Flanders was a pioneer in the development of occupational information in this country. He regarded the military as a vital segment of the nation's labor force, and had a pivotal role in the conception, design, and development of the *Military Career Guide*. Mr. Flanders' vision and wise counsel enabled the Department of Defense to produce this publication according to professional standards for career information development.

David J. Armor
Principal Deputy Assistant Secretary of Defense
(Force Management and Personnel)

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Planning a Career

Today, more than ever, selecting an occupation that will lead to a satisfying career requires careful planning and informed decision making. To help you explore the world of careers, many sources of civilian and military career information have been developed specifically for high school students. The time you spend gathering this information, learning about various career alternatives, and thinking through your personal preferences will help you enormously in making decisions and planning goals that will lead to a satisfying career. Your school counselor can help you locate career information and explore career alternatives of interest to you.

By far, the largest employer in the U.S. today is the military. Each year, over 325,000 young people choose to become either officers or enlisted members in the military. When thinking about a military career, an important consideration is whether to become an enlisted member or an officer. The two are different in many important ways, including qualification requirements, training provided by the service, type of jobs, level of responsibility, and pay. This book presents information about enlisted and officer occupations to help you explore the military world-of-work.

The *Military Career Guide* is a comprehensive source of information on enlisted and officer military occupations. For each of the 205 military occupations described in the *Military Career Guide*, valuable information such as a description of primary work activities, training provided, and work environment are included. Also, most military occupations are comparable to one or more civilian occupations. For each military occupation described, similar civilian occupations are also identified.

In addition, two other sources of information have been developed specifically for high school students:

Military Career Paths

The purpose of *Military Career Paths* is to describe the typical duties and assignments a person could expect when advancing along the path of a 20-year military career. While the *Military Career Guide* presents an overview of the typical job duties in a military occupation, *Military Career Paths* presents a more comprehensive description of work performed at various stages of a military career. In total, the career paths of 25 enlisted and 13 officer occupations from the *Military Career Guide* are described in *Military Career Paths*. Each occupation contains important career information such as requirements for career advancement, training, typical job duties, and levels of advancement. One of the most interesting features of *Military Career Paths* is a "career profile" that summarizes the career progression of an actual service member in the illustrated occupation. Each profile details the places of assignment and duties the service member performed over his or her career. Exercises have also been included to help you use the book more effectively and plan for a career.

Exploring Careers: The ASVAB Workbook

Every student who takes the Armed Services Vocational Aptitude Battery (ASVAB) will receive a copy of *Exploring Careers: The ASVAB Workbook*. *The ASVAB Workbook* is intended to help you learn the process of career exploration and to identify occupations that match your preferences. The information and exercises it presents will guide you in thinking about your abilities, values, and interests; gathering occupational information; evaluating different occupations; and making sound decisions. If you are interested in taking the ASVAB and obtaining this book, contact your school counselor for more information.

Military Enlisted Occupations

How to Read the Enlisted Occupational Descriptions

The purpose of the *Military Career Guide* is to introduce students, parents, and counselors to the military world of work. The guide can be used to explore the many employment and training opportunities available in the enlisted and officer forces of the Army, Navy, Air Force, Marine Corps, and Coast Guard.

The *Military Career Guide* contains descriptions of 205 military occupations. This section of the *Military Career Guide* contains descriptions of 134 enlisted military occupations. Each enlisted description*has standard sections as shown in the example on the opposite page. An explanation for each section of the description is also provided.

When reading any of the 134 enlisted descriptions, remember that it is a summary of similar job specialties across two or more of the military services. For example, the Divers description in the sample represents 12 distinct job specialties in four services involving diving. Therefore, individual job specialties may differ somewhat from the general occupations described in this book. If you are interested in learning more about a particular service or occupation, you should contact a recruiter for details.

Occupational Title

The occupational title names the military occupation. An alphabetical listing of titles is in the index beginning on page 366.

What They Do

"What They Do" describes the main work activities performed by workers in the occupation. Because job specialties vary from one service to another, some of the activities listed may not apply to all services.

Special Qualifications

Special qualifications must be met to enter certain occupations. Typing ability, fluency in a foreign language, and successful completion of certain high school courses are examples of special qualifications. This section also identifies combat occupations from which women are excluded by law.

Summary

"Summary" contains background information about the military occupation.

Physical Demands

Some military occupations place physical demands on workers. For example, strength for moderate or heavy lifting is a common physical demand noted in the *Military Career Guide*. Other physical demands include running, climbing, swimming, clear speech, and special vision requirements.

ASVAB Qualification Graph

The Armed Services Vocational Aptitude Battery (ASVAB) is a test offered in most high schools and postsecondary schools. If you have taken the ASVAB, you can use your scores with this book.

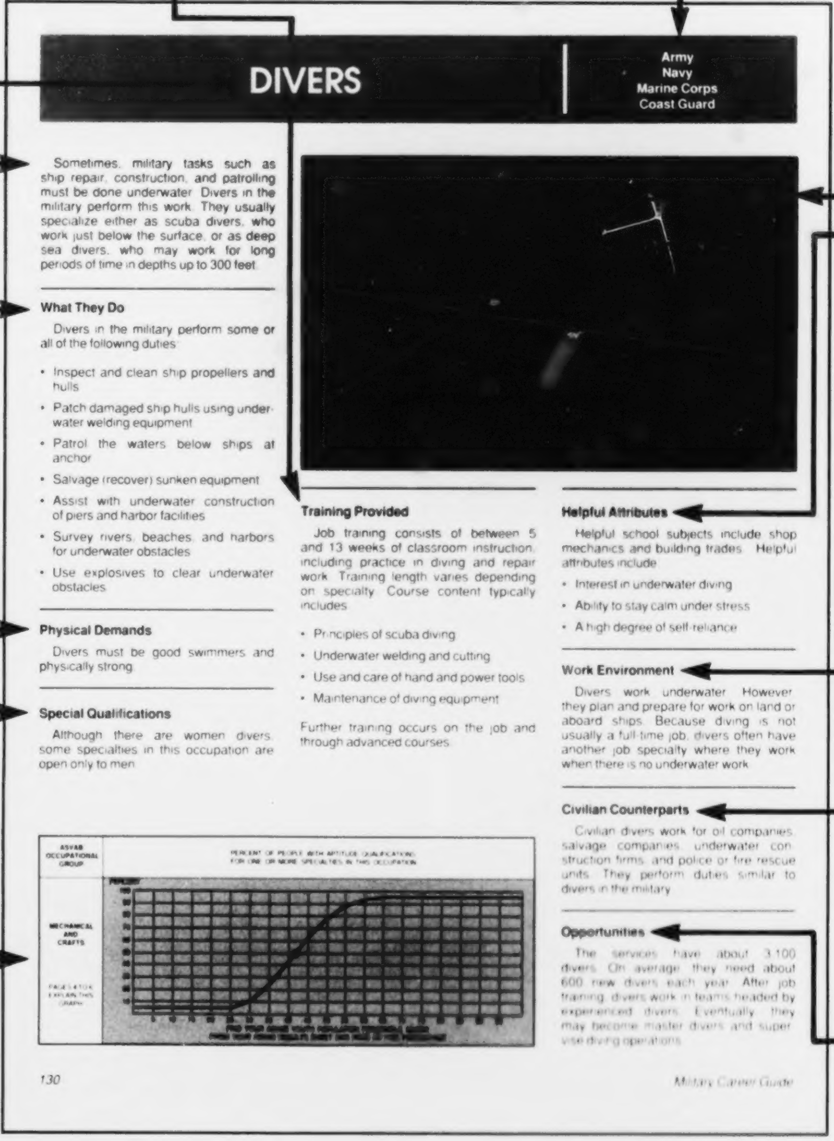
For each of the 134 enlisted occupations described in the *Military Career Guide*, a graph is included that relates ASVAB Form 14 scores to military occupations. See page 4 for instructions on using these graphs.

Training Provided

The military provides job training to all new workers. Most job training is provided in a classroom setting. For some occupations, training is provided on the job. In "Training Provided," the length of training and course content are summarized. Course content and length of training may vary for each service. When applicable, this section also names the services that offer apprenticeship programs certified by the Department of Labor.

Military Service Representation

The military services listed next to the title offer employment and training opportunities in the occupation. Not all services offer every occupation described in the *Military Career Guide*.



DIVERS

Army
Navy
Marine Corps
Coast Guard

Sometimes, military tasks such as ship repair, construction, and patrolling must be done underwater. Divers in the military perform this work. They usually specialize either as scuba divers, who work just below the surface, or as deep sea divers, who may work for long periods of time in depths up to 300 feet.

What They Do

Divers in the military perform some or all of the following duties:

- Inspect and clean ship propellers and hulls
- Patch damaged ship hulls using underwater welding equipment
- Patrol the waters below ships at anchor
- Salvage (recover) sunken equipment
- Assist with underwater construction of piers and harbor facilities
- Survey rivers, beaches, and harbors for underwater obstacles
- Use explosives to clear underwater obstacles

Physical Demands

Divers must be good swimmers and physically strong.

Special Qualifications

Although there are women divers, some specialties in this occupation are open only to men.

Training Provided

Job training consists of between 5 and 13 weeks of classroom instruction, including practice in diving and repair work. Training length varies depending on specialty. Course content typically includes:

- Principles of scuba diving
- Underwater welding and cutting
- Use and care of hand and power tools
- Maintenance of diving equipment

Further training occurs on the job and through advanced courses.

Helpful Attributes

Helpful school subjects include shop mechanics and building trades. Helpful attributes include:

- Interest in underwater diving
- Ability to stay calm under stress
- A high degree of self-reliance

Work Environment

Divers work underwater. However, they plan and prepare for work on land or aboard ships. Because diving is not usually a full-time job, divers often have another job specialty where they work when there is no underwater work.

Civilian Counterparts

Civilian divers work for oil companies, salvage companies, underwater construction firms, and police or fire rescue units. They perform duties similar to divers in the military.

Opportunities

The services have about 3,100 divers. On average, they need about 600 new divers each year. After job training, divers work in teams headed by experienced divers. Eventually, they may become master divers and supervise diving operations.

ASVAB OCCUPATIONAL GROUP
PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION
MECHANICAL AND CRAFTS

130

Military Career Guide

Photograph

One or more photographs are included to illustrate the job duties performed.

Helpful Attributes

"Helpful Attributes" include interests, school subjects taken, experience, and other personal characteristics that may be helpful for training and working in the military occupation. These are not requirements.

Work Environment

"Work Environment" describes the typical work settings and conditions for the occupation. Work settings may be indoors or outdoors, on land, aboard ship, or in aircraft.

Civilian Counterparts

Most military occupations are comparable to one or more civilian occupations because they require similar duties and training. "Civilian Counterparts" identifies these civilian occupations and the kinds of companies or organizations in which they are located. The *Dictionary of Occupational Titles* (DOT) Code Index beginning on page 352 provides a complete listing of counterpart civilian occupations for each military occupation.

Opportunities

"Opportunities" contains information on the total number of enlisted personnel working in the occupation and the average annual need for new personnel. Military career advancement in the occupation is also summarized in this section.

How to Use the ASVAB Graph

What is the ASVAB?

The Armed Services Vocational Aptitude Battery (ASVAB) is a test that can help you with educational and career planning.

If you have taken the ASVAB, you can use your scores to explore occupations that interest you. For each of the 134 enlisted occupations described in the *Military Career Guide*, a graph is included that relates ASVAB Form 14 scores to enlisted military occupations. The officer occupational descriptions do not include an ASVAB graph because ASVAB Form 14 scores cannot be related to officer occupations. Using the graphs in this book and your ASVAB results, you can estimate your chances of qualifying for entry into enlisted military occupations. If you have not taken the ASVAB and would like to, ask your school counselor for information on how to do so.

Which ASVAB Scores Should I Use?

On your ASVAB results sheet, you will find a section marked YOUTH POPULATION PERCENTILE SCORES (see sample on opposite page). Four Occupational Scores are reported in this section:

- Mechanical and Crafts
- Business and Clerical
- Electronics and Electrical
- Health, Social, and Technology

To estimate your chances of qualifying for any of the enlisted occupations in this book, you will need to use one of these four scores. For instance, the Electronics and Electrical score should be used with the sample ASVAB graph on the opposite page.

How Do I Use My ASVAB Scores?

Using your ASVAB scores to estimate your chances of qualifying for military occupations described in this book involves five steps. To help you learn these steps, a sample ASVAB graph is provided on the opposite page. Assume the graph is from an occupational description that interests you.

STEP 1

The first step is to find which of your four ASVAB Occupational Scores you should use with the graph. Look on the left side of the graph and find the name of the ASVAB occupational group. For example, you should use your Electronics and Electrical score with the sample graph.

STEP 2

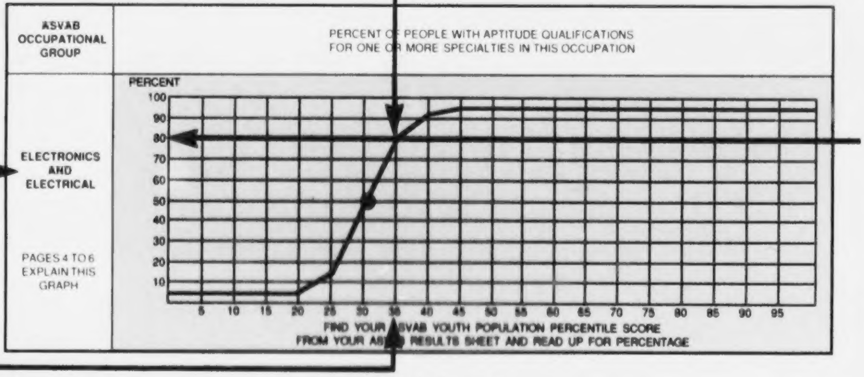
On "Your ASVAB Results" sheet, in the section marked YOUTH POPULATION PERCENTILE SCORES, find your Occupational Score that has the same name as the score you found on the ASVAB graph in Step 1. For example, the sample results sheet on the opposite page shows you scored "35" in Electronics and Electrical.

STEP 3

Find your score on the bottom line of the ASVAB graph. In this example, the arrow points to your score of "35" on the sample graph. (You will need to estimate the location of your score if it falls between the numbers shown on the bottom line of the graph.)

STEP 4

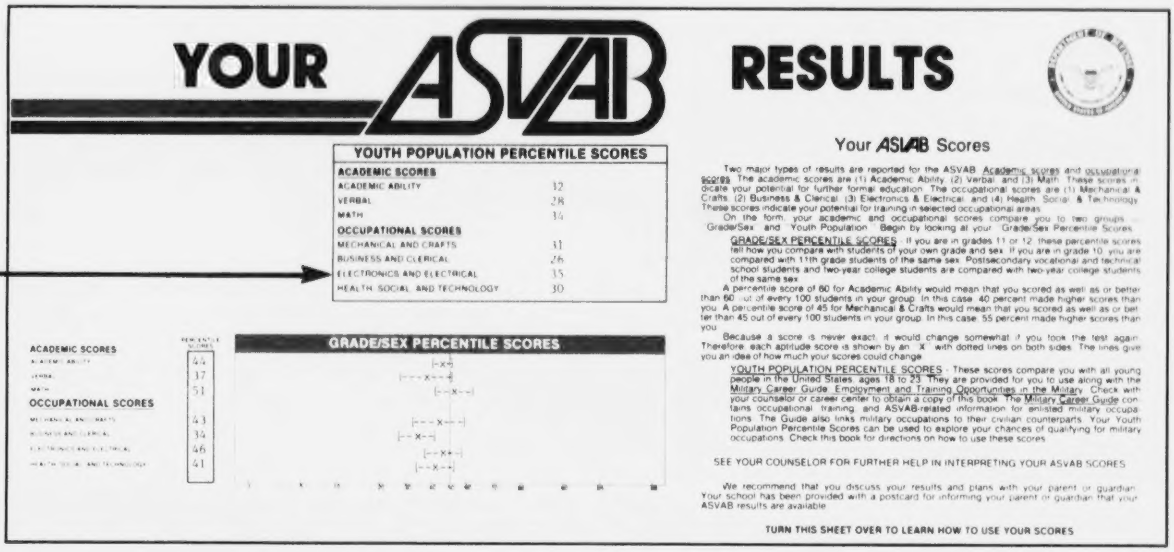
Read up in a straight line from your score until you come to the curve drawn on the graph.



Sample *Military Career Guide* ASVAB Graph

STEP 5

Now, follow straight across to the left from the curve to the number on the side of the graph. The number indicates the percentage of people with a particular ASVAB score who qualify for the military occupation. In the example, 80 percent of the people who score "35" on Electronics and Electrical qualify for the occupation. This means your score of "35" gives you an estimated 80 percent chance of qualifying for one or more job specialties in the occupation. Turn to the next page for further explanation of what the percentage means.



YOUR ASVAB RESULTS

YOUTH POPULATION PERCENTILE SCORES	
ACADEMIC SCORES	
ACADEMIC ABILITY	32
VERBAL	28
MATH	34
OCCUPATIONAL SCORES	
MECHANICAL AND CRAFTS	31
BUSINESS AND CLERICAL	26
ELECTRONICS AND ELECTRICAL	35
HEALTH, SOCIAL, AND TECHNOLOGY	30

GRADE/SEX PERCENTILE SCORES

	PERCENTILE SCORES
ACADEMIC SCORES	
ACADEMIC ABILITY	44
VERBAL	37
MATH	51
OCCUPATIONAL SCORES	
MECHANICAL AND CRAFTS	43
BUSINESS AND CLERICAL	34
ELECTRONICS AND ELECTRICAL	46
HEALTH, SOCIAL, AND TECHNOLOGY	41

Your ASVAB Scores

Two major types of results are reported for the ASVAB. Academic scores and occupational scores. The academic scores are (1) Academic Ability, (2) Verbal, and (3) Math. These scores indicate your potential for further formal education. The occupational scores are (1) Mechanical & Crafts, (2) Business & Clerical, (3) Electronics & Electrical, and (4) Health, Social, & Technology. These scores indicate your potential for training in selected occupational areas.

On the form, your academic and occupational scores compare you to two groups — "Grade/Sex" and "Youth Population." Begin by looking at your "Grade/Sex Percentile Scores."

GRADE/SEX PERCENTILE SCORES - If you are in grades 11 or 12, these percentile scores tell how you compare with students of your own grade and sex. If you are in grade 10, you are compared with 11th grade students of the same sex. Postsecondary vocational and technical school students and two-year college students are compared with two-year college students of the same sex.

A percentile score of 60 for Academic Ability would mean that you scored as well as or better than 60 out of every 100 students in your group. In this case, 40 percent made higher scores than you. A percentile score of 45 for Mechanical & Crafts would mean that you scored as well as or better than 45 out of every 100 students in your group. In this case, 55 percent made higher scores than you.

Because a score is never exact, it would change somewhat if you took the test again. Therefore, each aptitude score is shown by an "X" with dotted lines on both sides. The lines give you an idea of how much your scores could change.

YOUTH POPULATION PERCENTILE SCORES - These scores compare you with all young people in the United States, ages 18 to 23. They are provided for you to use along with the Military Career Guide: Employment and Training Opportunities in the Military. Check with your counselor or career center to obtain a copy of this book. The Military Career Guide contains occupational, training, and ASVAB-related information for enlisted military occupations. The Guide also links military occupations to their civilian counterparts. Your Youth Population Percentile Scores can be used to explore your chances of qualifying for military occupations. Check this book for directions on how to use these scores.

SEE YOUR COUNSELOR FOR FURTHER HELP IN INTERPRETING YOUR ASVAB SCORES

We recommend that you discuss your results and plans with your parent or guardian. Your school has been provided with a postcard for informing your parent or guardian that your ASVAB results are available.

TURN THIS SHEET OVER TO LEARN HOW TO USE YOUR SCORES

Sample ASVAB Results Sheet

What Does the ASVAB Percentage Mean?

In the example, your Electronics and Electrical score of "35" gave you an estimated 80 percent chance of qualifying for one or more job specialties in the occupation. An 80 percent chance of qualifying is similar to a weather forecaster's prediction of an 80 percent chance of rain. This prediction means that, under certain weather conditions, it rains 80 times out of 100. The ASVAB percentage means that 80 out of every 100 people who score "35" on Electronics and Electrical have the aptitude to qualify for the occupation in the example.

When using the ASVAB graphs, remember that ASVAB estimates are not precise measures. No test can provide a completely accurate measure of aptitudes. Your scores may change somewhat if you take the ASVAB again. For example, students who take the ASVAB during their sophomore or junior year usually find their scores improve slightly if they retake the ASVAB during their senior year. Students whose scores have improved after retaking the ASVAB will now be aptitude-qualified for more military occupations.

Also, keep in mind that aptitude is only one of the several qualifications needed to enter occupations in the military. For example, specific physical requirements must be met to qualify for some occupations. The next section of this book describes the other requirements.

The ASVAB information in the *Military Career Guide* is provided so that you may explore your chance of qualifying for military occupations. Specific information about whether you qualify for a particular service job specialty is available through a local service recruiter.

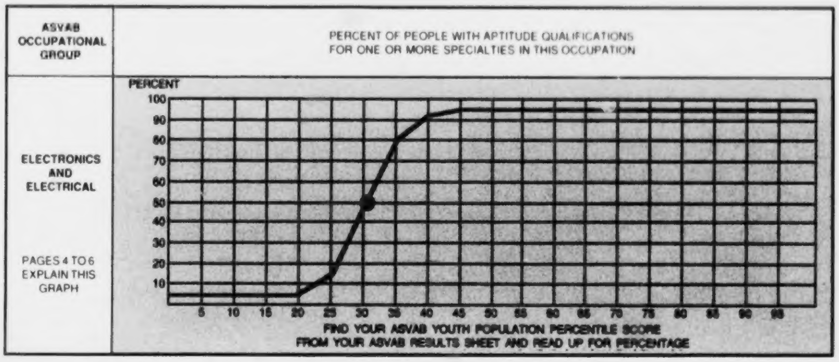
Can ASVAB Scores Also Be Used to Explore Civilian Occupations?

Although the ASVAB graphs in the *Military Career Guide* are designed to apply to military occupations, they may also apply in a general way to civilian occupations. If you have a strong aptitude for a military occupation, you may have a strong aptitude for its civilian counterparts.

There are civilian counterparts to almost all of the military occupations described in this book. The "Civilian Counterparts" section of each occupational description lists the titles of equivalent civilian occupations.

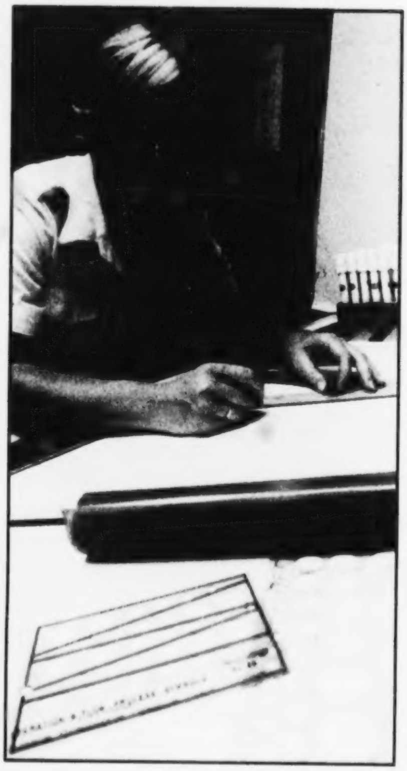
What Is a 50-50 Score?

A 50-50 score is the score at which a person has a 50 percent chance of qualifying for at least one of the job specialties in a military occupation. In the example below, "30" is the 50-50 score for the military occupation and is identified by a dot where the curve crosses the 50 percent line. In all of the graphs, the score beneath the dot indicates the 50-50 score.



General Information on Enlisted Occupations

General Information on Enlisted Occupations



Enlisted members are the supervisors and workers who carry out and maintain the day-to-day operations of the military. Their role is like that of a company supervisor or employee. Enlisted members perform jobs that, in civilian life, are called trade, craft, clerical, and technician jobs. Enlisted members may also supervise other enlisted members. As supervisors, enlisted members are responsible for the well-being of other enlisted members who serve in their units and for the care of equipment and property under their control. Overall, the services have available a broad range of enlisted occupations that require personnel with various knowledge, skills, and abilities.

MILITARY ENLISTED OCCUPATIONS

Besides being the largest employer in the nation, employing 1.8 million enlisted men and women, the military offers the widest choice of career opportunities. Together, the five services offer training and employment in over 2,000 enlisted job specialties. To help you explore the enlisted world of work, these 2,000 specialties are grouped into 134 enlisted occupations in this book. The 134 occupations are organized into 12 broad groups:

- Human Services Occupations
- Media and Public Affairs Occupations
- Health Care Occupations
- Engineering, Science, and Technical Occupations
- Administrative Occupations
- Service Occupations
- Vehicle and Machinery Mechanic Occupations
- Electronic and Electrical Equipment Repair Occupations
- Construction Occupations
- Machine Operator and Precision Work Occupations
- Transportation and Material Handling Occupations
- Combat Specialty Occupations

Figure 1 shows the distribution of enlisted members across the 12 occupational groups.

The population of a military base or a naval fleet often equals that of a small- to mid-sized city. Like cities, the military needs many services, supplies, and utilities (such as electricity and communications) in order to be self-sufficient. Therefore, the military services have a wide spectrum of occupations.

Over 75 percent of all military occupations have counterparts in the civilian world of work. For example, dental hygienist, air traffic controller, computer programmer, aircraft mechanic, and electronic technician occupations exist in both the military and civilian work forces.

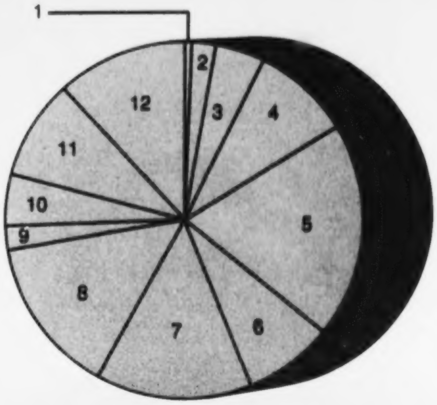


Figure 1
Distribution of Enlisted Personnel by Occupational Group

1. Human Services
2. Media and Public Affairs
3. Health Care
4. Engineering, Science, and Technical
5. Administrative
6. Service
7. Vehicle and Machinery Mechanic
8. Electronic and Electrical Equipment Repair
9. Construction
10. Machine Operator and Precision Work
11. Transportation and Material Handling
12. Combat Specialty

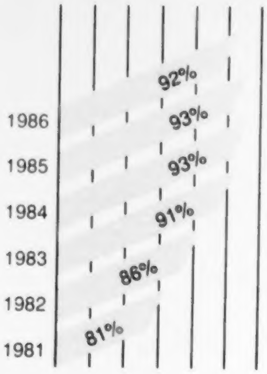


Figure 2
Percent of Enlisted Members With High School Diplomas 1981 - 1986

ENLISTMENT

Since 1973, military service has been totally voluntary. Each year, the services rely on the voluntary enlistment of over 300,000 young men and women to fill the occupational needs of the Army, Navy, Air Force, Marine Corps, and Coast Guard.

General Enlistment Qualifications

The general qualifications for military enlistment are shown in Table 1. The specific requirements may vary, depending on the individual service. If you are interested in a specific service's enlistment requirements, see the "Service Information on Enlisted Occupations" section beginning on page 23.

Service Obligation

Joining the military involves entering into a legal contract called an enlistment agreement. The service agrees to provide a job, pay, benefits, and occupational training. In return, the enlisted member agrees to serve for a certain period of time, which is called the service obligation. The standard service obligation is eight years, which is divided between full-time military duty, called active duty, and reserve duty. Depending on the enlistment program selected, enlisted members spend between two and six years on active duty, with the balance of the eight-year obligation period spent in the Reserves.

Enlistment Programs

Enlistment programs vary by service. The services adjust the programs they offer to meet changing recruiting needs.

Major enlistment options include cash bonuses for enlisting in certain occupations, guaranteed choice of job training and assignments, and the Delayed Entry Program (DEP). Currently, all services offer a DEP. By enlisting under the DEP option, an applicant delays entry into active duty for up to one year. High school students often enlist under the DEP during their senior year and enter a service after graduation. Other qualified applicants choose the DEP because the job training they desire is not currently available, but will be within the next year. If you are interested in a particular service's programs, see the "Service Information on Enlisted Occupations" section beginning on page 23.

Enlistment Contracts

The enlistment contract specifies the enlistment program selected by the applicant. It contains the enlistment date, term of enlistment, and other options, such as a training program guarantee or a cash bonus. If, for whatever reason, the service cannot meet its part of the agreement (for example, to provide a specific type of job training), then the applicant is no longer bound by the contract. If the applicant accepts another enlistment program, a new contract is written.

High School Graduates

The military encourages young people to stay in high school and graduate. Research has shown that high school graduates are more likely to be successful in the military than nongraduates. Therefore, the services accept very few non-high school graduates, as shown in Figure 2.

	Table 1 – General Enlistment Qualifications*
Age	Must be between 17 and 35 years. Consent of parent or legal guardian required if 17.
Citizenship Status	Must be either (1) U.S. citizen; or (2) an immigrant alien legally admitted to the U.S. for permanent residence and possessing immigration and naturalization documents.
Physical Condition	Must meet minimum physical standards listed below to enlist. Some military occupations have additional physical standards. Height -- For males: Maximum - 6'8" Minimum - 5'0" For females: Maximum - 6'8" Minimum - 4'10" Weight -- There are minimum and maximum weights, according to age and height, for males and females. Vision -- There are minimum vision standards. Overall Health -- Must be in good health and pass a medical exam. Certain diseases or conditions may exclude persons from enlistment, such as diabetes, severe allergies, epilepsy, alcoholism, and drug addiction.
Education	High school graduation is desired by all services and is a requirement under most enlisted options.
Aptitude	Must make the minimum entry score on the Armed Services Vocational Aptitude Battery (ASVAB). Minimum entry scores vary by service and occupation.
Moral Character	Must meet standards designed to screen out persons likely to become disciplinary problems. Standards cover court convictions, juvenile delinquency, arrests, and drug use.
Marital Status and Dependents	May be either single or married; however, single persons with one or more minor dependents are not eligible for enlistment into military service.
Waivers	On a case-by-case basis, exceptions (waivers) are granted by individual services for some of the above qualification requirements.

*Each service sets its own enlistment qualification requirements. If you are interested in a specific service's enlistment requirements, see the "Service Information on Enlisted Occupations" section beginning on page 23, or contact a military recruiter.

ENLISTING IN THE MILITARY

Enlisting in the military involves a four-step process.

Step 1: Talking with a Recruiter

If you are interested in applying for one of the military services, you must talk with a recruiter from that service. Recruiters can provide detailed information about the employment and training opportunities in their service, as well as answer specific questions about service life, enlistment options, and other topics. They can also provide details about their service's enlistment qualification requirements.

If you decide to apply for entry into the service, and the recruiter identifies no problems (such as a severe health problem), the recruiter will examine your diploma or other educational credentials. The recruiter will then schedule you for enlistment processing.

Step 2: Qualifying for Enlistment

Enlistment processing occurs at one of the 68 Military Entrance Processing Stations (MEPS) located around the country. At the MEPS, applicants typically take the Armed Services Vocational Aptitude Battery (ASVAB) and receive medical examinations to determine if they are qualified to enter the service.

ASVAB results are used to determine if an applicant qualifies for entry into a service and if the applicant has the specific aptitude level required to enter job specialty training programs. If you have taken the ASVAB in high school or postsecondary school, you can use your scores to determine if you qualify for entry into the military services, provided the scores are not more than two years old. Applicants with current ASVAB scores are not required to take the ASVAB a second time.

Step 3: Meeting with a Service Classifier

A service classifier is a military career information specialist who helps applicants select a military occupational field. For example, if you were applying for the service, the classifier would inform you of service job training openings that match your aptitudes and interests. Specifically, the classifier would enter your ASVAB scores into a computerized reservation system. Based on your scores, the system would show the career fields and training programs for which you qualify and when job training would be available.

After discussing job training options with the classifier, you would select an occupation and schedule an enlistment date. Enlistment dates may be scheduled for up to one year in the future to coincide with job training openings. This option is called the Delayed Entry Program (DEP).

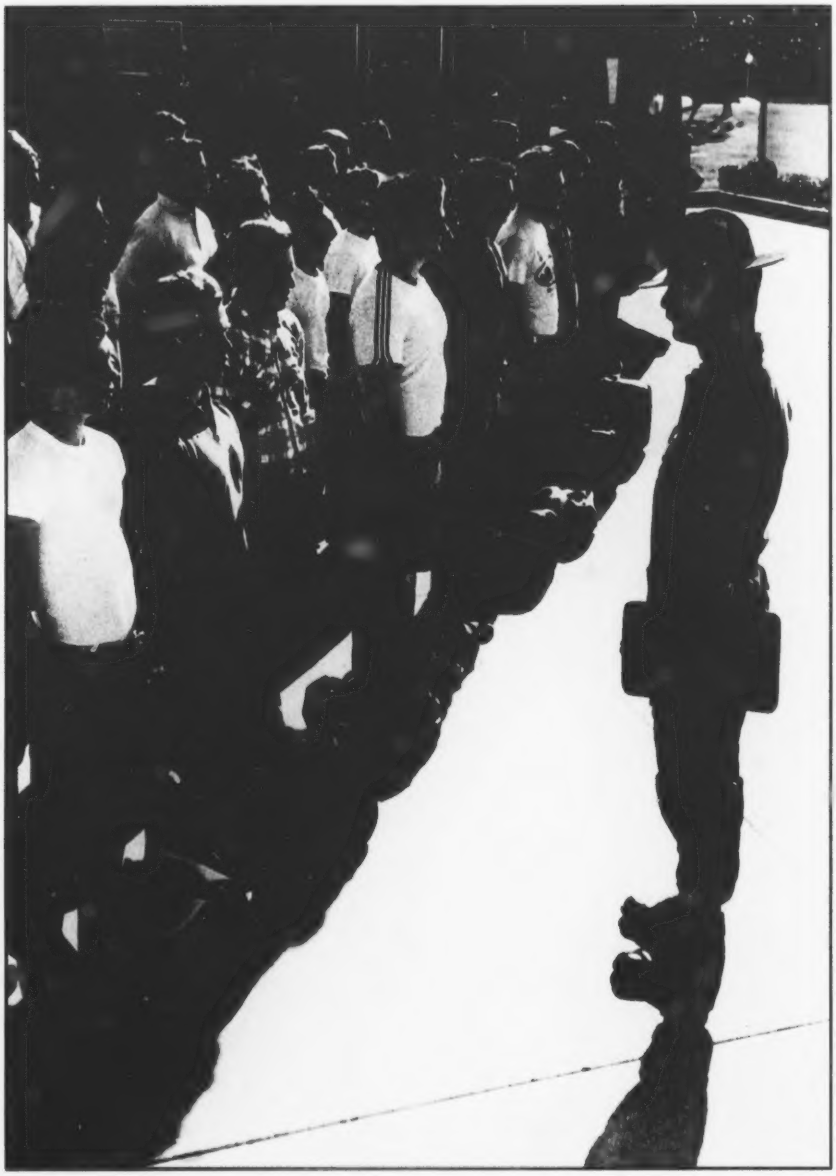
Following selection of a military training program, you would sign an enlistment contract and take the oath of enlistment. If you chose the DEP option, you would return home until your enlistment date.

Step 4: Enlisting in the Service

After completing enlistment processing, applicants who select the immediate enlistment option receive their travel papers and proceed to a military base for basic training. Applicants who select the DEP option return to the MEPS on their scheduled enlistment date. At that time, applicants officially become "enlistees" (also known as "recruits") and proceed to a military base.

In the uncommon event that your guaranteed training program, through no fault of your own, is not available on the reserved date, you have three options:

- Make another reservation for the same training and return at a later date to enter the service
- Select another occupation and reserve training
- Decide not to join the service and be free from any obligation.



MILITARY TRAINING

The military generally provides three kinds of training for its personnel:

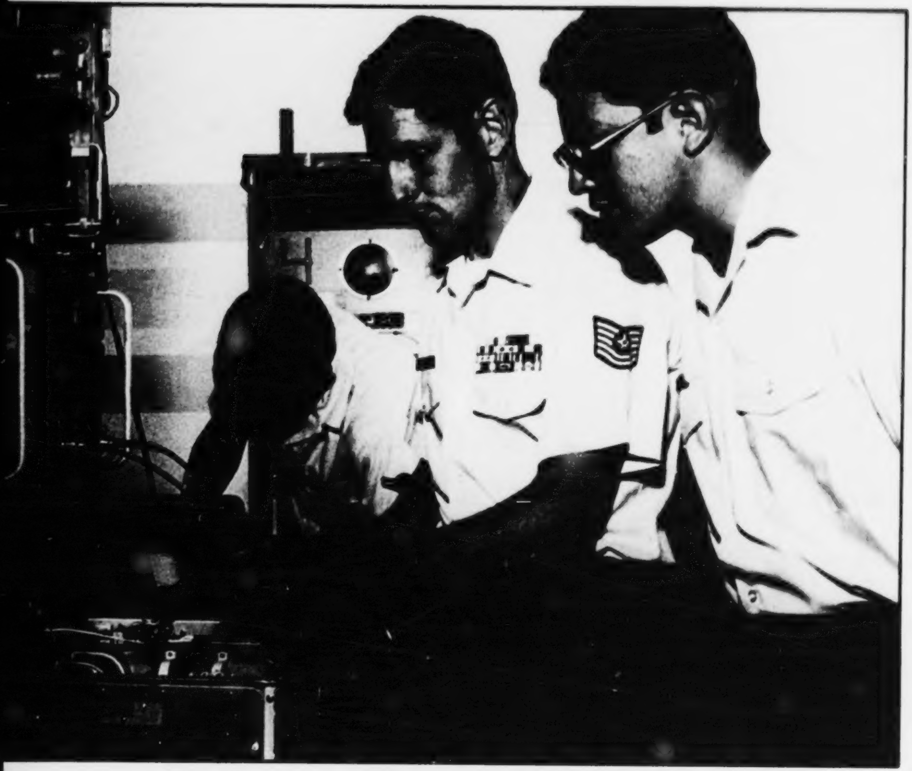
- Recruit training
- Job training
- Continuing education

Recruit Training

Recruit training, popularly called basic training, is a rigorous orientation to the military. Depending on the service, recruit training lasts from six to ten weeks and provides a transition from civilian to military life. The services train recruits at selected military bases across the country. Where an enlistee trains depends on the service and the job training to be received. Through basic training, recruits gain the pride, knowledge, discipline, and physical conditioning necessary to serve as members of the Army, Navy, Air Force, Marine Corps, and Coast Guard.

Upon reporting for basic training, recruits are divided into training groups of 40 to 80 people, meet their drill instructor, receive uniforms and equipment, and move into assigned quarters.

During basic training, recruits receive instruction in health, first aid, and military skills. They also improve their fitness and stamina by participating in rigorous daily exercises and conditioning. To measure their conditioning progress, recruits are tested on sit-ups, push-ups, running, and body weight.



Recruits follow a demanding schedule throughout basic training; every day is carefully structured with times for classes, meals, physical conditioning, and field instruction. Some free time (including time to attend religious services) is available to recruits during basic training. After completing basic training, recruits normally proceed to job training.

Job Training

Through job training, also called technical or skill training, recruits learn the skills they will need to perform their job specialties. The military provides its personnel with high quality training because lives and mission success depend on how well people perform their duties. Military training produces highly qualified workers, and for this reason many civilian employers consider military training excellent preparation for civilian occupations.

The type of job specialty determines the length of training. Most training lasts from 10 to 20 weeks, although some specialties, such as nuclear power plant operator, require over one year of training.

Military training occurs both in the classroom and on the job. Classroom training emphasizes hands-on activities and practical experience, as well as textbook learning. For example, recruits who will be working with electronic equipment practice operating and repairing the equipment, in addition to studying the principles of electronics.

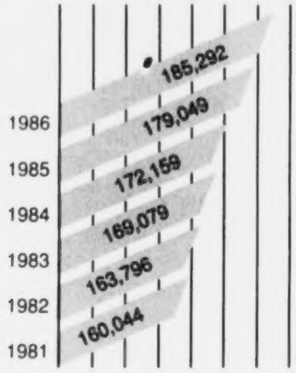


Figure 3
Enlisted Women
1981 - 1986

At their first assignment, enlisted members continue to learn on the job. Experienced enlisted members and supervisors help service men and women further develop their skills. In addition, the military offers refresher courses and advanced training to help military personnel maintain and increase their skills. As personnel advance in rank, they continue their training with leadership and management courses.

Three services, the Army, Navy, and Marine Corps, offer apprenticeship programs for some job specialties. These programs consist of classroom and on-the-job training that meet U.S. Department of Labor apprenticeship standards. After completing an apprenticeship program, personnel receive a Department of Labor apprenticeship certificate. To military commanders and civilian employers, these certificates demonstrate that the worker has acquired specific skills and qualifications.

For each occupation described in the *Military Career Guide*, a summary of the training content and length is provided.

Continuing Education

The military strongly believes in continuing education for its members. The services offer many programs to help enlisted men and women continue their education. Enlisted members can enroll in courses to advance their skill training, obtain college degrees, improve their communications skills, or simply study subjects of general interest. Many service programs provide full or partial tuition assistance. If you are interested in a specific service's continuing education programs, see the "Service Information on Enlisted Occupations" section beginning on page 23.

DUTY ASSIGNMENT

After job training, recruits receive specific duty assignments. Assignments are based on service job openings and the recruit's training.

All services require their members to travel. The military has hundreds of bases located in nearly all states and in many countries around the world. Military personnel routinely transfer to different bases after one-, two-, or three-year tours of duty. Regular transfers allow service men and women to gain experience in different settings and make duty assignments fair. To most recruits, the opportunity to travel is a major benefit of military service.

WOMEN IN THE MILITARY

Military women make important contributions to national defense. In the past 10 years, military women have increased in numbers from 2 percent to about 10 percent of active duty personnel. As shown in Figure 3, the total number of women in the enlisted forces reached a new high of over 180,000 in 1986.

Not only has the percentage of women risen, but the scope of women's opportunities in the military has also expanded. Women are currently eligible to enter almost 90 percent of all military job specialties. Examples of the many occupations women are now entering include helicopter mechanic, missile maintenance technician, and heavy equipment operator.

According to federal laws and policies, women may not be assigned to duty that involves a high probability of exposure to direct combat. Through studies, the services have determined which occupations have the highest probability of exposure to direct combat. Examples of these occupations include tank crew member, fighter pilot, submarine crew member, and infantryman.

Despite federal law and policies that restrict women from entering direct combat-related occupations, there are many occupational specialties open to women, and more women are serving than ever before. In addition, the commitment to integrate women into the military has never been higher. The outlook for women enlisted members in the military suggests the future will provide even greater opportunities.

RESERVE FORCES

Seven different forces make up the Reserves -- the Army, Navy, Air Force, Marine Corps, Coast Guard Reserves, and the Army and Air National Guard. The term "Reserves" includes all seven forces. Currently, over 1.4 million Americans serve as reservists. Each year, the military needs about 240,000 new reservists.

The Reserves are important to our overall national defense. In a national emergency, reservists can be called up immediately to serve on active duty because they are highly trained by the services and drill regularly.

During peacetime, the Reserves perform many functions to support active duty forces in our country's defense, such as reconnaissance, rescue missions, air defense for the continental U.S., installation and repair of communications equipment, and transport of troops, material, and medical support.

Enlistment

To enlist in the Reserves, applicants must meet physical, aptitude, citizenship, educational, and moral requirements similar to those that active duty applicants must meet. They must also be between 17 and 35 years of age. Parental consent is required for 17-year-olds. Specific age standards vary by service.

Reservists normally enlist for eight years. They serve an initial period on active duty while completing basic training and receiving job training. After the training period, which usually lasts several months, reservists return to civilian life. For the remainder of their service obligation, they attend training sessions and perform work in their job specialty one or two days per month (usually in the evening or on weekends) with their local unit. Once a year (usually during the summer), reservists participate in an active duty training session of 10 to 14 days.

Pay and Promotions

Reservists are paid at the same rate as active duty members for the time they spend working or training. Pay grade and length of service determine their rate of pay. Active duty pay and benefits are described beginning on page 18.

The Reserves have promotion systems similar to, but separate from, the regular services. Reservists only compete with other reservists for promotion; advancement is based on performance and length of service. Qualified individuals may apply for appointments as commissioned officers.

Training

The military generally offers the same training to reservists as it does to active duty members. Reservists may attend the same schools and complete similar training programs. Besides basic training and initial job training, reservists may enroll in advanced training courses by correspondence or may attend regular service training classes. Because of the similarities between many military and civilian occupations, reservists' military training and duty may be helpful in their civilian careers.

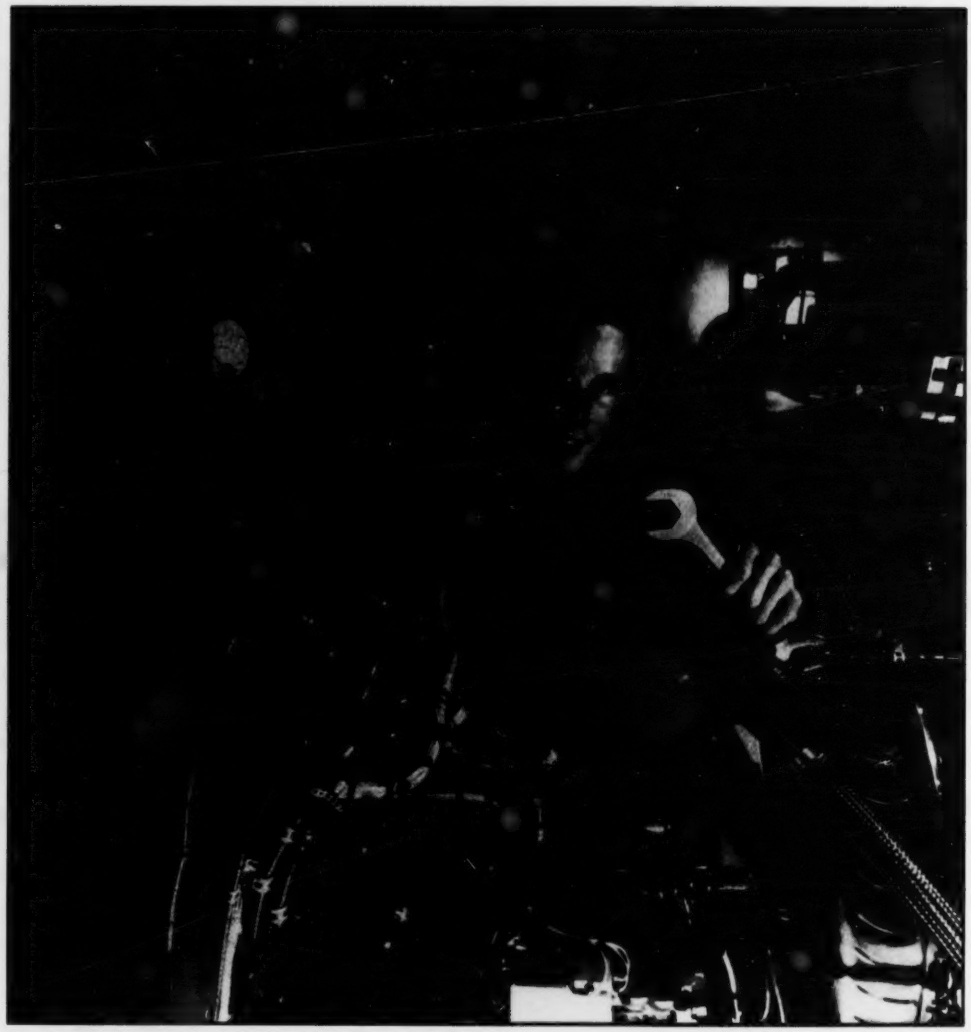
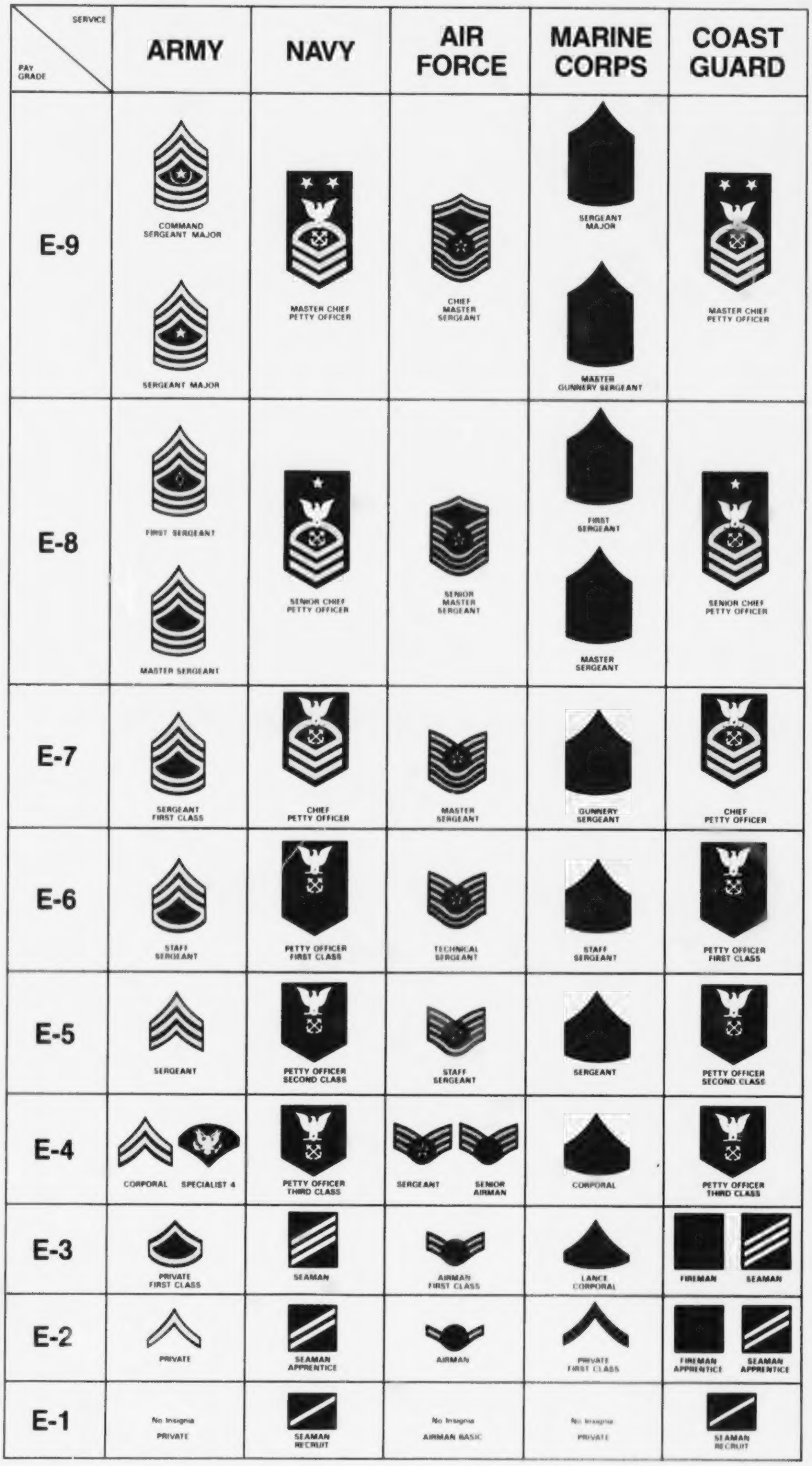


Figure 4
Enlisted Insignia of the United States Armed Forces



SERVICE / PAY GRADE	ARMY	NAVY	AIR FORCE	MARINE CORPS	COAST GUARD
E-9	COMMAND SERGEANT MAJOR SERGEANT MAJOR	MASTER CHIEF PETTY OFFICER	CHIEF MASTER SERGEANT	SERGEANT MAJOR MASTER GUNNERY SERGEANT	MASTER CHIEF PETTY OFFICER
E-8	FIRST SERGEANT MASTER SERGEANT	SENIOR CHIEF PETTY OFFICER	SENIOR MASTER SERGEANT	FIRST SERGEANT MASTER SERGEANT	SENIOR CHIEF PETTY OFFICER
E-7	SERGEANT FIRST CLASS	CHIEF PETTY OFFICER	MASTER SERGEANT	GUNNERY SERGEANT	CHIEF PETTY OFFICER
E-6	STAFF SERGEANT	PETTY OFFICER FIRST CLASS	TECHNICAL SERGEANT	STAFF SERGEANT	PETTY OFFICER FIRST CLASS
E-5	SERGEANT	PETTY OFFICER SECOND CLASS	STAFF SERGEANT	SERGEANT	PETTY OFFICER SECOND CLASS
E-4	CORPORAL SPECIALIST 4	PETTY OFFICER THIRD CLASS	SERGEANT SENIOR AIRMAN	CORPORAL	PETTY OFFICER THIRD CLASS
E-3	PRIVATE FIRST CLASS	SEAMAN	AIRMAN FIRST CLASS	LANCE CORPORAL	FIREMAN SEAMAN
E-2	PRIVATE	SEAMAN APPRENTICE	AIRMAN	PRIVATE FIRST CLASS	FIREMAN APPRENTICE SEAMAN APPRENTICE
E-1	No Insignia PRIVATE	SEAMAN RECRUIT	No Insignia AIRMAN BASIC	No Insignia PRIVATE	SEAMAN RECRUIT

PAY AND BENEFITS

Military personnel in all five services are paid according to the same pay scale and receive the same basic benefits. Military pay and benefits are set by Congress, which normally grants a cost-of-living pay increase once each year. In addition to pay, the military provides many of life's necessities, such as food, clothing, and housing, or pays monthly allowances for them. The following sections describe military pay, allowances, and benefits in more detail.

Enlisted Pay Grades

Enlisted members can progress through nine enlisted pay grades during their career. Pay grade and length of service determine a service member's pay. Figure 4 shows the relationship between pay grade and rank in each service and also illustrates the insignia for the ranks.

New recruits begin at pay grade E-1, except in some services where a few who have certain technical job skills enter at a higher pay grade. Enlistees usually move up to E-2 within six months. Within the next six to twelve months, the military promotes enlisted members to E-3 if job performance is satisfactory and other requirements are met. Promotions to E-4 and above are based on job performance, leadership ability, promotion test scores, years of service, and time in the present pay grade. Promotions become more competitive at the higher pay grades.

GI Bill Benefits

Individuals entering active duty after June 30, 1985, are automatically enrolled in the new Veterans Educational Assistance Benefit Program unless they choose not to participate. Those enrolled in the program have their basic pay reduced by $100 per month for their first 12 months of service. Upon completion of three years of continuous active duty, individuals are eligible for $300 per month for 36 months, for a maximum of $10,800 in basic benefits for full-time schooling (individuals who complete a two-year obligation will receive $250 per month for 36 months).

Basic Pay

The major part of an enlisted member's paycheck is basic pay. Pay grade and total years of service determine an enlisted member's basic pay. Table 2 contains information on annual basic pay as of 1987. Cost-of-living increases generally occur once a year.

Table 2 – 1987 Basic Pay for Enlisted Members (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	**2**	**3**	**4**	**6**	**8**	**10**	**...**	**26**
E-9	*	*	*	*	*	*	*	...	$30,503
E-8	*	*	*	*	*	*	$20,434	...	27,241
E-7	*	*	*	$16,070	$16,621	$17,150	17,698	...	24,509
E-6	$11,934	$13,007	$13,550	14,126	14,652	15,185	15,743	...	*
E-5	10,472	11,401	11,952	12,474	13,291	13,831	14,382	...	*
E-4	9,770	10,314	10,912	11,768	12,233	*	*	...	*
E-3	9,202	9,706	10,098	10,498	*	*	*	...	*
E-2	8.856	*	*	*	*	*	*	...	*
E-1	7,898[1]	*	*	*	*	*	*	...	*

[1] E-1 Basic Pay for the first four months is $608 per month ($7,296 on an annual basis).

* Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

Incentives and Special Pay

The military offers incentives and special pay (in addition to basic pay) for certain types of duty. For example, incentives are paid for submarine and flight duty. Other types of hazardous duty with monthly incentives include parachute jumping, flight deck duty, and explosives demolition. In addition, the military gives special pay for sea duty, diving duty, special assignments, duty

Table 3 – 1987 Regular Military Compensation (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	2	3	4	6	8	10	...	26
E-9	•	•	•	•	•	•	•	...	$41,109
E-8	•	•	•	•	•	•	$30,037	...	36,904
E-7	•	•	•	$24,409	$25,650	$26,107	26,662	...	33,524
E-6	$20,198	$21,205	$21,794	22,315	22,811	23,316	23,868	...	•
E-5	17,753	18,681	19,220	19,730	20,520	21,038	21,567	...	•
E-4	15,878	16,425	17,029	17,872	18,330	•	•	...	•
E-3	14,765	15,273	15,668	16,069	•	•	•	...	•
E-2	13,804	•	•	•	•	•	•	...	•
E-1	12,510[1]	•	•	•	•	•	•	...	•

Regular Military Compensation reflects basic pay, allowances, and the value of the tax advantage for allowances.

[1] E-1 Regular Military Compensation for the first four months is roughly $977 per month ($11,724 on an annual basis).

• Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

in certain foreign places, and duty in areas subject to hostile fire. Depending on the service, bonuses are also paid for entering certain occupations.

Allowances

Most enlisted members, especially in the first year of service, live in military housing and eat in military dining facilities free of charge. Those living off base receive quarters (housing) and subsistence (food) allowances in addition to their basic pay. In 1987, the monthly housing allowance ranged from $141 to $456, depending on pay grade and number of dependents. The food allowance ranged from $149 to $240 per month, depending on living circumstances. Because allowances are not taxed as income, they provide a significant tax savings in addition to their cash value.

When added up, housing and food allowances, together with their tax savings, are substantial additions to basic pay. Table 3 contains information on the total value of basic pay, allowances, and tax savings, called Regular Military Compensation. The table represents the amount of pay a civilian worker would need to earn to realize the same "take home" pay as a service member. These figures provide a more realistic basis of comparison between military and civilian wages than the figures in Table 2.

Employment Benefits

Military personnel receive substantial benefits in addition to their pay and allowances. While they are in the service, enlisted members' benefits include health care, vacation, legal assistance, recreational programs, educational assistance, and commissary/exchange (military store) privileges. Families of service members also receive some of these benefits. Table 4 contains a summary of these employment benefits.

Retirement Benefits

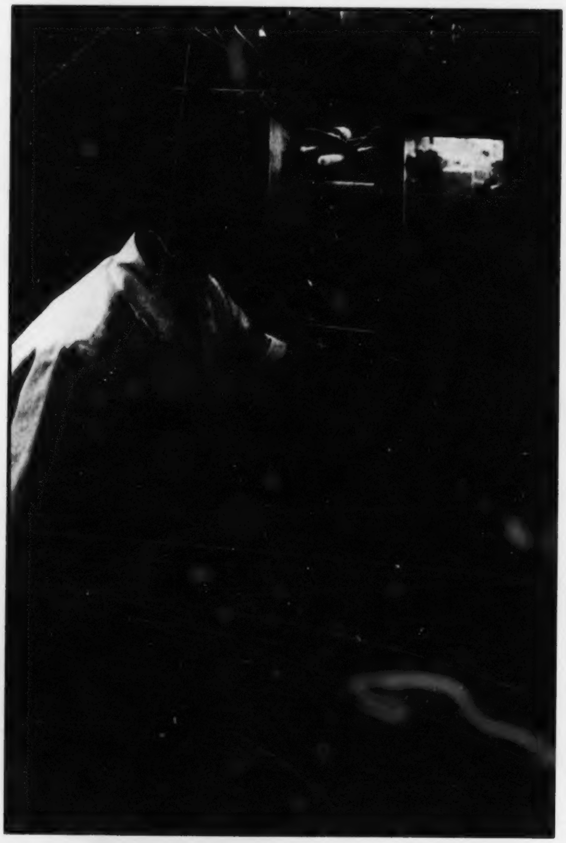
The military offers one of the best retirement programs in the country. After 20 years of active duty, personnel may retire and receive a monthly payment equal to 40 percent of their average basic pay for their last five years of active duty. Persons who retire with more than 20 years of service receive higher pay. Other retirement benefits include medical care and commissary/exchange privileges.

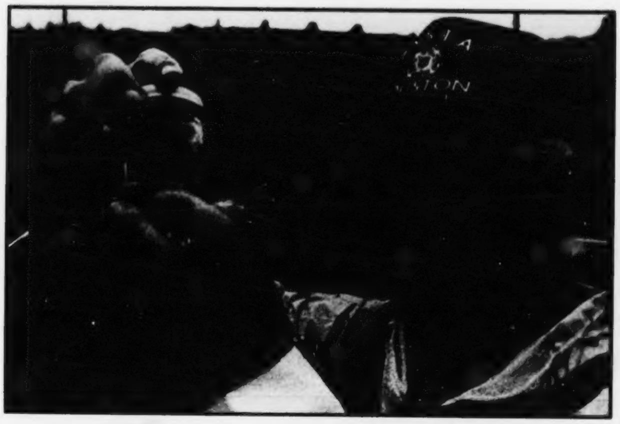
Veterans' Benefits

Veterans of military service are entitled to certain veterans' benefits set by Congress and provided by the Veterans Administration. In most cases, these include guarantees for home loans, hospitalization, survivor benefits, educational benefits, disability benefits, and assistance in finding civilian employment.

Table 4 -- Summary of Employment Benefits for Enlisted Members

Vacation	Leave time of 30 days per year.
Medical, Dental, and Eye Care	Full medical, hospitalization, dental, and eye care services for enlistees and most health care costs for family members.
Continuing Education	Voluntary educational programs for undergraduate and graduate degrees or for single courses, including tuition assistance for programs at colleges and universities.
Recreational Programs	Programs include athletics, entertainment, and hobbies: Softball, basketball, football, swimming, tennis, golf, weight training, and other sports Parties, dances, and entertainment Club facilities, snack bars, game rooms, movie theaters, and lounges Active hobby and craft clubs, book and music libraries.
Exchange and Commissary Privileges	Food, goods, and services are available at military stores, generally at lower costs.
Legal Assistance	Many free legal services are available to assist with personal matters.





Service Information on Enlisted Occupations

Army

OVERVIEW

Today's "Army of Excellence" is a modern and powerful military force made up of more than 92,000 officers, 15,000 warrant officers, and 670,000 enlisted soldiers. Army men and women work in many types of jobs, ranging from general administration to the operation and maintenance of the Army's many thousands of weapons, vehicles, aircraft, and highly technical electronic systems.

Soldiers, working as a team, perform the Army's mission of protecting the security of the United States and its vital resources. The Army stands constantly ready to defend American interests and the interests of our allies through land-based operations anywhere in the world.

The Army needs about 130,000 new enlistees each year. Those who enlist into the Army will find hundreds of challenging career opportunities that offer a lifetime of security and excitement to them and their families.

ENLISTMENT

Enlistment into the Army may be for two, three, four, five, or six years. Applicants must be from 17 to 35 years old, American citizens or registered aliens, and in good health. To determine what careers they are best suited for, all applicants must take the Armed Services Vocational Aptitude Battery (ASVAB). The ASVAB is offered at most high schools.

In most cases, qualified applicants can be guaranteed their choice of training or duty assignment. There are often combinations of guarantees that are particularly attractive to those who are qualified. For those who wish to be guaranteed a specific school, a particular area of assignment, or both, the Army offers the Delayed Entry Program (DEP). An applicant for the DEP can reserve a school or an assignment choice as much as one year in advance of entry into active duty. Other enlistment programs include the Army Civilian Acquired Skills Program, which gives recognition to those skills acquired through civilian training or experience. This program allows enlisted members with previously acquired training to be promoted more quickly than they ordinarily would be. In some cases, the Army also offers enlistment bonuses of up to $8,000.

Enlistment programs and options vary from time to time. Local Army recruiters always have the latest information and are ready to answer inquiries without obligation.

TRAINING

Initial Army training is provided in two sections: basic training and job training (Advanced Individual Training).

Basic Training

Basic training is a rigorous eight-week orientation for men and women entering the Army. Basic training transforms new enlistees from civilians into soldiers. During basic training, new soldiers gain the discipline, spirit, pride, knowledge, and physical conditioning necessary to perform Army duties.

Army basic training is given in several locations throughout the country, including training centers in New Jersey, South Carolina, Georgia, Texas, Kentucky, Alabama, Oklahoma, and Missouri.

Upon reporting for basic training, new soldiers are assigned to a training company and are issued uniforms and equipment. They are introduced to their training leaders, otherwise known as drill sergeants. Drill sergeants are experienced noncommissioned officers who direct the individual's training to ensure that he or she becomes a successful soldier.

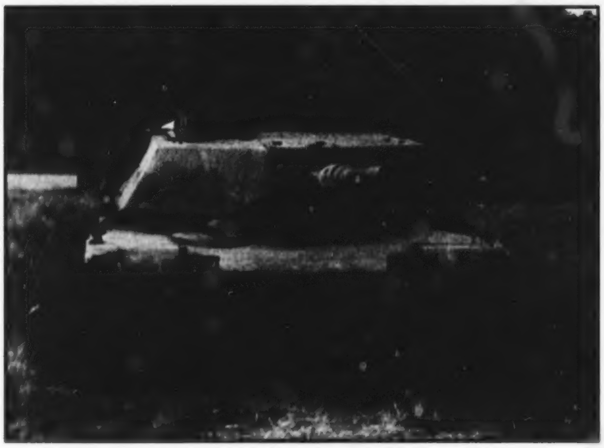
Army basic training stresses team work. Soldiers undergoing training are trained in groups known as squads or platoons. These groups range from nine to approximately eighty soldiers; they are small enough that each soldier can be recognized for his or her special abilities. Such groups tend to become closely knit teams and develop group pride and camaraderie during the eight weeks of rigorous training they experience together.

Basic training is conducted on a demanding schedule, but each soldier progresses at the rate he or she can handle best. Soldiers attend a variety of classes and field instruction, including training in military life, weapons firing, physical conditioning, and military drill. All training emphasizes team work and therefore includes classes in human relations. These classes help trainees from different backgrounds learn to work closely together. Only limited personal time is available during basic training, but there is plenty of time for receiving and answering mail, for personal care, and for attending church.

Job Training (Advanced Individual Training)

After basic training, Army soldiers go directly to Advanced Individual Training in the occupational field of their choice, where they learn a specific Army job. Advanced Individual Training schools are located at many Army bases throughout the country.

The Army offers job training in a wide range of career fields, including electrical and electronics repair occupations, machinery mechanics occupations, health care occupations, construction occupations, and combat specialty occupations.



Advanced Individual Training students generally attend traditional classes, using books, similar to a high school or college setting. These classes are supplemented with demonstrations by highly qualified instructors and by practical exercises that allow the soldiers to actually use tools, Army equipment, or Army procedures in a way that prepares them for their jobs. Many soldiers also receive on-the-job training, learning job skills by working at a job with other soldiers under the guidance of a qualified instructor.

Many Advanced Individual Training courses are registered with the U.S. Department of Labor as certified apprenticeship training programs. Generally, this training qualifies participants for both federal and state apprenticeship programs and helps guarantee future civilian employment in their chosen trade.

ADVANCEMENT

Every job in the Army has a career path leading to increased pay and responsibility with well-defined promotion criteria. After six months of service, new soldiers advance to Private (E-2). The next step in the promotion ladder is Private First Class (E-3), which occurs after the 12th month. Promotion to Corporal (E-4) occurs after established time in grade and time in service requirements are met. These times vary, but every soldier can ordinarily expect to become an E-4 within his or her first three years of service. Starting with grade E-5, promotions to E-5 through E-9 are accomplished on a competitive basis. At each grade, there are minimum periods of time in service and time in grade that must be met before being considered for promotion. In some cases, there also are educational requirements that must be met for promotion.

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The Army offers a number of ways to advance beyond the enlisted grades, either as warrant officers or commissioned officers. These usually are reserved for only the best qualified soldiers. Warrant officers perform duties similar to commissioned Army officers. Many warrant officers are directly appointed from the enlisted grades as vacancies occur. These opportunities usually exist in the technical fields, especially those involving maintenance of equipment. Other opportunities are available in Army administration, intelligence, and law enforcement. Unique among the Armed Forces is the Army's Warrant Officer Aviator Program. Qualified personnel may enlist for Warrant Officer Candidate School and, upon completion, receive flight training and appointment as Army warrant officer aviators.

Enlisted soldiers may also compete for a limited number of selections to attend Officer Candidate School (OCS) or the United States Military Academy. Upon graduating from OCS or the academy, soldiers receive officer commissions. For soldiers with college degrees, there are opportunities for direct commissioning.

EDUCATION PROGRAMS

For enlisted personnel, the Army has a well-defined system for progressive service school training. Soldiers are often able to volunteer for this schooling or, in some cases, they are selected on a competitive basis.

As a soldier progresses in his or her career, advanced technical training opportunities are offered. These courses include, but are not limited to, advanced noncommissioned officer courses at the E-6 grade level and the Sergeants Major Academy at the E-8 and E-9 levels.

Civilian education is stressed as a means to improve both the soldier's work performance and preparedness for life in a technical and competitive society. The Army Continuing Education System provides counseling, academic services, and vocational-technical services at little or no cost. In a few cases, the Army sends its soldiers to college, but generally they are encouraged to pursue college training during off-duty time. The Army even offers limited tuition assistance to soldiers who wish to attend college courses on their own time.

Army personnel also are eligible to participate in educational assistance programs with the government, such as the GI Bill, which will provide up to $10,800 for future educational needs. The Army, through the Army College Fund, will add additional bonuses to qualified soldiers' accounts.

FOR FURTHER INFORMATION

Students who wish to learn more about specific military jobs and careers are encouraged to use this manual to its fullest. In addition, many career information systems found in high schools and libraries have information about Army careers. The most up-to-date information about Army programs or careers is always available from an Army recruiter. Feel free to contact the one nearest you. There is no obligation.

Navy

OVERVIEW

The Navy plays an important role in helping to maintain the freedom of the seas. It defends the right of our country and its allies to travel and trade freely on the world's oceans and helps protect our country during times of international conflict. Navy sea and air power make it possible for our country to use the oceans when and where our national interests require it.

The Navy is a big and diverse organization. It is made up of about 550,000 officers and enlisted people. Navy personnel operate and repair more than 500 ships and over 6,000 aircraft; they serve as radio operators, dental specialists, seamen, computer programmers, photographers, ship electricians, and boiler technicians and work in many other exciting careers. Navy people serve on ships at sea, on submarines under the sea, in aviation positions on land and sea, and at shore bases around the world.

The Navy recruits about 100,000 officers and enlisted people each year to fill openings in Navy career fields.

ENLISTMENT

To qualify for enlistment in Navy programs, men and women must be between the ages of 17 and 34. Parental consent is required for all 17 year olds. In the nuclear field, the maximum enlistment age is 23, due to extensive training requirements. Since many Navy programs require enlistees to be high school graduates, the Navy prefers young people to graduate first before entering the Navy.

Enlistees must be citizens of the United States or immigrant aliens with immigration and naturalization papers. A physical examination and the Armed Services Vocational Aptitude Battery (ASVAB) test must be completed.

Initial enlistment in the Navy usually is for four years. However, three-, five-, or six-year enlistments are also available for men and women, depending on the programs they select.

After going through the enlistment process at a Military Entrance Processing Station, Navy people usually are placed in the Delayed Entry Program (DEP). Recruits in the DEP are guaranteed training assignments. The DEP allows enlistees to finish high school, take care of personal business, or just relax before reporting for duty.

There is extra pay in the Navy for sea duty, submarine duty, demolition duty, diving duty, work as a crew member of an aviation team, or jobs that require special training. Because the nuclear field is such a critical and unique area of the Navy, quicker promotions are earned and bonuses are available when the training in this field is completed and also when sailors with nuclear training reelinist.

TRAINING

The Navy is known for the excellent training it provides. The Navy provides both recruit training and job training.

Recruit Training

The first assignment for every Navy enlistee is recruit training. It is a tough eight-week period of transition from civilian to Navy life. It provides the discipline, knowledge, and physical conditioning necessary to continue serving in the Navy.

Navy recruit training centers are located in Orlando, Florida; Great Lakes, Illinois; and San Diego, California. Women recruits train only at Orlando.

After reporting, recruits are placed into training companies, issued uniforms and equipment, and assigned living quarters.

The recruit's day starts at 0530 (5:30 a.m.). Taps (lights out) is at 2130 (9:30 p.m.). During weekdays, the daily schedule is based on 11 periods of physical fitness and classroom instruction, each lasting 40 minutes.

Physical fitness training includes pushups, sit-ups, jumping jacks, distance running, water survival, and swimming instruction. Recruits are tested for physical fitness at the beginning and end of recruit training. The test requirements differ for men and women.

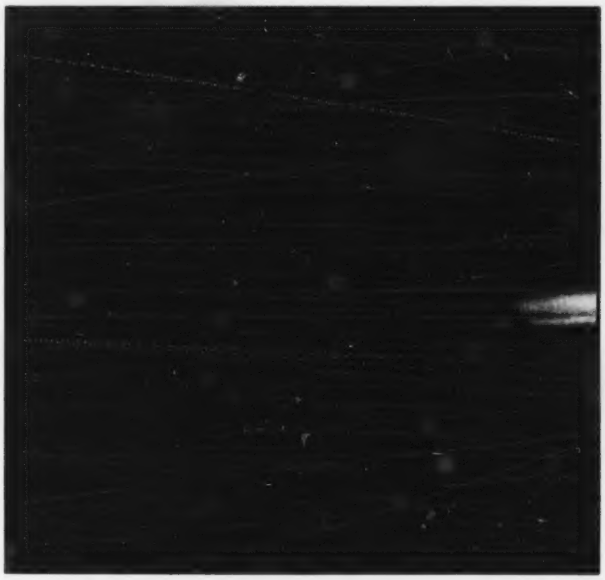
Recruits are given classroom and field instruction covering more than 30 subjects, including aircraft and ship familiarization, basic deck seamanship, career incentives, decision making, time management, military drill, Navy mission and organization, military customs and courtesies, and the chain of command.

Job Training

After recruit training, most Navy people go directly to the technical school (called class A school) they signed up for at the Military Entrance Processing Station.

The Navy has more than 60 job fields from which enlistees may choose. They are grouped in occupational categories similar to the 134 occupations described in the *Military Career Guide.*

Navy class A schools are located on military bases throughout the United States, including Great Lakes, Illinois; San Diego, California; Newport, Rhode Island; and Pensacola, Florida. They range in length from a few weeks to many months, depending on the complexity of the subject.



Those who complete recruit training and are still undecided about what career path they want to take in the Navy can begin an on-the-job apprenticeship training program. One such program for men is the Subfarer Program, which trains men to serve aboard submarines.

When apprentices finish on-the-job training, they should have an idea of what type of job (rating) they want to pursue during the rest of their Navy service. They may then apply to class A school for training in that rating.

Advanced training in most job fields is available later in a Navy person's career.

The Office of Education Credit of the American Council on Education regularly reviews and evaluates Navy training and experience. It has recommended that colleges and universities award credits for nearly all Navy courses.

ADVANCEMENT

Like other branches of the service, the Navy has nine enlisted pay grades, from E-1 to E-9.

A new enlistee entering the Navy is an E-1 (Seaman Recruit). After about six months in the Navy, the E-1 normally is eligible for advancement to E-2 (Seaman Apprentice).

Navy promotions are based on five things: job performance, competitive examination grades, recommendations of supervisors, length of service, and time in present level of work. It is not possible to predict exactly when promotions will occur; however, every job in the Navy has a defined career path leading to supervisory positions.

People with highly developed skills in certain occupations the Navy really needs may enter the Navy at advanced pay grades. Some people qualify for one of the specialized technical training programs in the electronic or nuclear fields, where advancement is often rapid.

Enlisted petty officer ratings (E-4 through E-9) are not to be confused with Navy commissioned officer rankings. Most Navy enlisted personnel are not college graduates, while most Navy commissioned officers have college degrees. However, the Navy does offer several programs that allow enlisted personnel to advance to officer status.

Two Navy programs, Limited Duty Officer (LDO) and Warrant Officer (WO), permit career enlisted Navy people to advance to commissioned officer status without a college education. Enlisted Navy people interested in officer commissions through these two programs should start planning for them early in their careers. These commissions are limited to successful career petty officers; the competition is keen and the standards are high.

The Enlisted Commissioning Program enables an eligible enlisted man or women with previous college credits and between four and eleven years of active service to earn a bachelor's degree in 24 months or less while assigned to Naval Reserve Officer Training Corps (NROTC) college. Because these students may not actually have to participate in the NROTC program at college, they earn their commissions as Navy officers after graduating from Officer Candidate School (OCS).

EDUCATION PROGRAMS

The Navy believes that the more education people receive, the better equipped they are to perform their jobs and fulfill personal goals.

A program called Navy Campus provides opportunities for enlisted members to take continuing education classes throughout their Navy careers. Through Navy Campus, enlisted members can pursue all levels of education and training, from high school equivalency to vocational certificate to college degree, wherever they are stationed. Navy Campus offers on-duty and off-duty study to provide a complete package of educational benefits to Navy people. They can enroll in any combination of Navy Campus programs and keep adding credits toward a civilian college degree or vocational certificate of their choice.

The Navy offers enlisted members two officer preparatory programs to improve their academic status so they may compete for a commissioning program such as the NROTC or the United States Naval Academy in Annapolis, Maryland. These preparatory programs are the Broadened Opportunity for Officer Selection and Training (BOOST) and the Naval Academy Preparatory School (NAPS).

The United States Naval Academy offers a fully subsidized four-year college education -- plus a monthly salary. About 1,300 people are selected for the Naval Academy each year from nominations by Senators, Representatives, the President and Vice President of the United States, and the Secretary of the Navy.

Candidates must be U.S. citizens, aged 17 to 22, and single with no children. Enlisted Navy men and women applying to the academy must have served at least one year of active duty by the date of entrance. Graduates receive a bachelor of science degree and a commission.

FOR FURTHER INFORMATION

The occupational information provided in the *Military Career Guide* can be useful in exploring career opportunities in the Navy. Many career information systems found in high schools and libraries have similar information about military careers. However, to learn more detailed information about the latest training and enlistment programs, contact your local Navy recruiter. There is no obligation.

Air Force

OVERVIEW

The mission of the Air Force is to preserve the United States as a free nation through the use of the world's most technologically advanced aerospace forces. The Air Force flies and maintains aircraft, such as long-range bombers, supersonic fighters, Airborne Warning and Control System (AWACS) aircraft, and many others, whenever and wherever necessary, to protect the interests of America and American allies. Over 600,000 highly trained officers and airmen make up today's Air Force. Some pilot aircraft -- everything from helicopters to the Space Shuttle. Many others do the jobs that support the Air Force's flying mission; they may work as firefighters, aircraft mechanics, security police, or air traffic controllers or in many other Air Force career fields. The Air Force currently recruits about 60,000 men and women each year to fill openings in hundreds of challenging Air Force careers.

ENLISTMENT

Applicants for enlistment in the Air Force must be in good health, possess good moral character, and make the minimum scores on the Armed Services Vocational Aptitude Battery required for Air Force enlistment. They must also be at least 17 years of age.

Prior to taking the oath of enlistment, qualified applicants may be guaranteed either to receive training in a specific skill or to be assigned within a selected aptitude area. The Guaranteed Training Enlistment Program guarantees training and initial assignment in a specific skill. The Aptitude Index Program guarantees classification into one of four aptitude areas (mechanical, administrative, general, or electronic); specific skills within these aptitude areas are selected during basic training.

After choosing one of these programs, applicants may also qualify for the Delayed Enlistment Program (DEP); Enlist Now--Go Later. DEP enlistees become members of the Air Force Inactive Reserve with a delayed date for active duty enlistment. They do not participate in any military activities or earn pay or benefits while in the DEP. The individual agrees to enter active duty on a certain date, and the Air Force agrees to accept him or her (if still qualified) and provide training and initial assignment in the aptitude area or job specified.

TRAINING

The Air Force provides two kinds of training to all enlistees: basic training and job training.

Basic Training

All Air Force Basic Military Training (BMT) is conducted at Lackland Air Force Base in San Antonio, Texas. BMT teaches enlistees how to adjust to military life, both physically and mentally, and promotes pride in being a member of the Air Force. It lasts six weeks and consists of academic instruction, confidence courses, physical conditioning, and marksmanship training. Trainees who enlist without an aptitude area guarantee receive orientation and individual counseling to help choose a job specialty compatible with Air Force needs and with their aptitudes, education, civilian experience, and desires. After graduation from BMT, recruits receive job training in their chosen specialty.

Job Training

Most BMT graduates go directly to one of the Air Training Command's Technical Training Centers for formal, in-residence training. In-residence job training is conducted at Chanute AFB, Rantoul, Illinois; Keesler AFB, Biloxi, Mississippi; Lackland AFB, San Antonio, Texas; Lowry AFB, Denver, Colorado; Sheppard AFB, Wichita Falls, Texas; and Goodfellow AFB, San Angelo, Texas, and several other locations nationwide. In formal classes and practice sessions, airmen learn the basic skills needed for first assignment in their specialty. (Some airmen proceed directly to their initial duty station and receive instruction in their skill through on-the-job training.)

Air Force training does not end with graduation from basic training or a technical training school. Upon arriving at their first permanent duty station, airmen begin on-the-job training (OJT). OJT is a two-part program consisting of self study and supervised job performance. Airmen enroll in skill-related correspondence courses to gain broad knowledge of their Air Force job, and they study technical orders and directives to learn specific tasks they must perform. They also work daily with their trainers and supervisors who observe them during hands-on task performance. Through OJT, they develop the job skills needed to progress from apprentice airmen to skilled noncommissioned officers. Airmen are also offered advanced training and supplemental formal courses throughout their careers to increase their skills in using specific equipment or techniques.

MANAGEMENT TRAINING

In addition to becoming skilled in their specialties, Air Force noncommissioned officers (NCOs) are also leaders and supervisors. Schools in the noncommissioned officer professional military education (NCO PME) system teach NCOs to be more effective in the operation of the Air Force. NCO PME is a progressive system consisting of preparatory courses and leadership schools for junior NCOs, NCO academics for intermediate NCOs, and the Senior NCO Academy for those selected for Senior Master Sergeant and Chief Master Sergeant. Through PME, NCOs develop management abilities that are valuable in any chosen career, military or civilian.

ADVANCEMENT

Airman Basic (pay grade E-1) is the initial enlisted grade. However, if you have completed a Civil Air Patrol program or Junior Reserve Officer Training Corps (JROTC) for any service or have attained certain levels of college credit, you may qualify for enlistment in a higher grade.

Every job in the Air Force has a defined career path leading to supervisory positions. Airman Basic enlistees are normally promoted to Airman (E-2) upon completion of six months of service and to Airman First Class (E-3) after 16 months of service. Promotion to Senior Airman (E-4) usually occurs at the three-year point of service. Senior Airmen train for about 12 months before receiving the title of Sergeant. However, some airmen qualify for accelerated promotion. Local Air Force recruiters have all the details on qualifications for accelerated promotions and advanced enlistment grades.

Promotions to the higher enlisted grades of Staff Sergeant (E-5), Technical Sergeant (E-6), Master Sergeant (E-7), and Senior and Chief Master Sergeant (E-8 and E-9) are competitive. Eligible airmen compete with others worldwide in the same grade and skill, based on test scores, performance ratings, decorations, and time in service and grade. All airmen receive a promotion score that shows how they stand in relation to others in their specialty and where improvement may be needed. Additionally, E-8 and E-9 candidates are reviewed by a selection board.

Chief Master Sergeants occupy the top enlisted grade, and they have great responsibility and prestige in the Air Force. They have the management ability to head several enlisted specialties related to their own skill or they may be the top enlisted expert in a highly technical field.

Normally, enlisted airmen and commissioned officers advance along separate career fields. However, the Air Force offers two programs through which airmen can receive commissions: the Air Force ROTC Scholarship Commissioning Program and the Airman Education and Commissioning Program. The Air Force ROTC Scholarship Commissioning Program allows airmen to complete their college degrees and earn officer commissions through two- or four-year Air Force ROTC scholarships. If selected for the program, the individual is transferred from active duty into the Air Force Reserve, then attends college (at the same time enrolling in the college's Air Force ROTC program) for completion of degree requirements. This highly competitive program pays tuition fees and a monthly allowance.

In addition to the AFROTC Scholarship Commissioning Program, airmen can also apply for a commission as an Air Force officer under the Airman Education and Commissioning Program (AECP). Enlisted personnel who possess bachelor's degrees or who can complete degree requirements under this program in areas of critical need may be accepted into Officer Training School. They are commissioned upon graduation.

EDUCATION PROGRAMS

The Air Force has many special education programs to help men and women pursue their educational goals while serving in the Air Force. These programs are in addition to educational benefits set up by the federal government for members of all services. All Air Force bases have education service centers, where trained counselors help airmen decide on a program or combination of programs and help them enroll. Some of these programs are:

Community College of the Air Force

The Community College of the Air Force (CCAF) offers education programs directly related to Air Force specialties; graduates are awarded the associate in applied science degree. The college works with Air Force training schools, regional accrediting agencies, and hundreds of cooperating civilian colleges and universities. Since the technical nature of most Air Force courses places them on a level with college study, airmen earn fully recognized college credits for most of what they learn in job training and on-the-job training. They can combine those credits with attendance at off-duty courses from civilian colleges to earn a two-year accredited associate degree in applied sciences from CCAF. The college offers more than 80 fields of study, ranging from police science to environmental services technology. Registration is free, and CCAF establishes a special study program for each student. Professional, industrial, and governmental organizations that issue licenses and certifications and set standards for civilian work recognize Air Force training and education through CCAF.

The College Level Examination Program

This rapidly expanding program allows airmen to receive credit for selected college courses by examination. The program is free, and education services centers maintain a current list of college tests available.

The Extension Course Institute

The Extension Course Institute (ECI) is the Air Force's correspondence school. It offers, free of charge, nearly 400 courses to some 250,000 students who register for ECI each year. These courses include everything from fundamentals of solid state devices to apprentice carpentry. Many Air Force personnel enroll in courses such as auto mechanics, plumbing, carpentry, or electrical wiring simply for background knowledge.

Tuition Assistance

The Air Force will pay from 75 to 90 percent of the tuition costs of most college courses. Many of these courses are offered on Air Force bases, with local college professors coming to the base.

FOR FURTHER INFORMATION

Local Air Force recruiters have the latest information on enlistment programs and career opportunities; contact them if you have any questions. High school guidance counselors can also give you advice on Air Force ROTC programs and the USAF Academy.

Marine Corps

OVERVIEW

The United States Marine Corps was created on November 10, 1775 by a resolution of the Continental Congress. Since then, the Marine Corps has grown to be one of the most elite fighting forces in the world. The Marine Corps' mission is unique among the five services; Marines serve on U.S. Navy ships, protect naval bases, guard U.S. embassies abroad, and serve as an ever-ready strike force to quickly protect the interests of the U.S. and its allies anywhere in the world. To perform the many duties of the Marine Corps, approximately 200,000 officers and enlisted Marines in the Corps fly planes and helicopters; operate radar equipment; drive armored vehicles; gather intelligence; survey and map territory; maintain and repair radios, computers, jeeps, trucks, tanks, and aircraft; and perform hundreds of other challenging jobs. Each year, the Marine Corps recruits 20,000 to 40,000 young men and women to fill openings in its numerous career fields.

ENLISTMENT

Marine Corps enlistment terms are for three-, four-, five-, or six-years, depending on the type of enlistment program. Young men and women enlisting in the Marine Corps must meet exacting physical, mental, and moral standards. Applicants must be between the ages of 17 and 29, American citizens or registered aliens, and in good health to ensure that they can meet the rigorous physical training demands. The Armed Services Vocational Aptitude Battery (ASVAB), described in this guide, is used by the Marine Corps to assess each person's vocational aptitudes and academic abilities. Some applicants for enlistment may have taken the ASVAB while still in high school. For those applicants who have not previously taken the ASVAB, a Marine recruiter can arrange for them to do so.

Applicants for enlistment can be guaranteed training and duty assignment under a wide variety of options, depending upon the degree of education and the qualifications they possess. Women are eligible to enlist in all occupational fields, with the exception of combat arms -- infantry, artillery, and tank and amphibian tractor crew members -- and some combat support and aviation operations specialties.

In addition to regular enlistment, the Marine Corps offers four special enlistment programs.

Delayed Entry Program

Students who wish to complete the Marine Corps enlistment process before graduating from high school or a community college may enlist in the Marine Corps Delayed Entry Program (DEP). Enlistment in the DEP allows applicants to postpone their initial active duty training for up to a full year. Enlisting in the DEP has two principal benefits: the student can finish high school or community college, and the highly desirable enlistment programs that are available in limited numbers, such as all computer specialties and many aviation specialties, can be reserved early.

Enlistment Options Program

The Enlistment Options Program guarantees well-qualified applicants, before they enlist, assignment to one of several military occupational specialties (MOS) in an MOS cluster. The MOS clusters contain every job available in the Marine Corps, ranging from combat arms to motor transport to high technology avionics, electronics, and computer science. Some enlistment options feature cash bonuses as well as formal training programs.

College Enlistment Program

The College Enlistment Program is for highly qualified young men and women for enlistment and assignment primarily to technical occupational fields. The program provides incentives to all high school graduates with post-high school degrees or vocational/community college certificates who want to enlist for four, five, or six years.

Quality Enlistment Program

The Quality Enlistment Program is for highly qualified young men and women for enlistment and assignment primarily to technical occupational fields. The program provides incentives, including choice of geographic assignment, to all qualified high school graduates/seniors who enlist for six years.

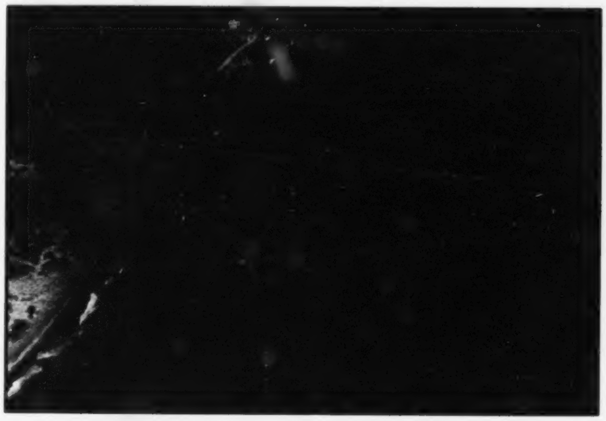
TRAINING

Marine Corps training occurs in two sections: recruit training and job training.

Recruit Training

Upon completing the enlistment process, all applicants enter Marine Corps recruit training. Young men undergo recruit training either at Parris Island, South Carolina, or in San Diego, California. All young women attend recruit training at Parris Island. Recruit training is rigorous, demanding, and challenging. The overall goal of recruit training is to instill in the recruits the military skills, knowledge, discipline, pride, and self-confidence necessary to perform as United States Marines.

In the first several days at the recruit depot, a recruit is assigned to a platoon, receives a basic issue of uniforms and equipment, is given an additional physical, and takes further assignment classification tests. Each platoon is led by a team of three Marine drill instructors. A typical training day for recruits begins with reveille at 0500 (5:00 a.m.), continues with drill, physical training, and several classes in weapons and conduct, and ends with taps at 2100 (9:00 p.m.).



Job Training

Upon graduation from recruit training, each Marine takes a short period of leave, then reports either to a new command for formal school training or to the on-the-job training to which he or she has been assigned. The Marine Corps sends students to over 200 basic formal schools and to over 300 advanced formal schools. The length of formal school varies from four weeks to over a year, depending on the level of technical expertise and knowledge required to become proficient in certain job skills. For example, different MOSs within the electrical and electronic repair occupational field require from 10 to 50 weeks to complete; different MOSs in the vehicle and machinery mechanic occupational field require from six to eighteen weeks to complete.

Job training environments vary depending upon the nature of instruction. Marines assigned to an MOS within the combat specialty occupational field conduct most of their training in the countryside. Marines receiving training in highly technical MOSs receive most of their training in a classroom. The main thrust of Marine Corps training is toward "hands-on-training" and practical application of newly acquired skills. As soon as possible after classroom instruction is completed, students are placed in an actual work environment to obtain practical experience and to develop confidence. After completing entry-level MOS training, most Marines are assigned to operational units of the Fleet Marine Forces to apply their skills. Marines assigned to the more technical MOSs may require more advanced training prior to their first operational duty assignment.

Job performance requirements in a number of MOSs are comparable to requirements needed for journeyman certification in civilian occupations. Marines assigned to these MOSs may apply for status as a registered apprentice. Journeyman status can be earned in Marine specialties in occupations such as air traffic control, electricity, and surveying.

ADVANCEMENT

Every job in the Marine Corps has a defined career path leading to supervisory positions. Advancement is directly linked to an individual's performance in an MOS and development as a Marine. Each Marine is evaluated based on job performance, experience, and ability to apply newly learned skills. While promotion criteria rely heavily upon individual job performance, Marines are also in competition with others of the same rank in the same MOS. Promotion becomes increasingly competitive as Marines advance in rank. The normal time-in-grade requirements for promotion are as follows: Private to Private First Class, six months; Private First Class to Lance Corporal, eight months; Lance Corporal to Corporal, eight months; and Corporal to Sergeant, 12 months. Promotions above Sergeant to the staff noncommissioned officer (SNCO) ranks are determined by promotion boards, which are convened each year at Headquarters, U.S. Marine Corps.

The Meritorious Promotion System is used to recognize Marines who demonstrate outstanding job performance and professional competence. Marines recommended for meritorious promotion are carefully screened by a commanding officers' promotion board before selection for accelerated advancement.

Normally, enlisted and officer Marines advance along separate career paths. However, qualified enlisted Marines can compete for and be accepted into the officer corps through several different programs. Competition is keen, and only the best qualified Marines are accepted.

The Enlisted Commissioning Program

This program provides the opportunity for enlisted Marines with two years of college to apply for assignment to the Officer Candidates School and subsequent appointment as unrestricted commissioned officers.

Enlisted Commissioning Education Program

The Marine Corps Enlisted Commissioning Education Program provides to selected enlisted Marines (who have had no college experience) the opportunity to earn baccalaureate degrees by attending a college or university as full-time students. Marines in this program who obtain their baccalaureate degrees and subsequently complete officer candidate training are commissioned as Second Lieutenants.

The Warrant Officer Program

Warrant officers are technical specialists who are assigned to duties only in their area of expertise. All other officers are said to be "unrestricted" and are assigned to a wide variety of assignments during their career. The Warrant Officer Program provides for the selection and appointment to permanent warrant officer those qualified applicants who are in the grade of Sergeant or above at the time of application.

EDUCATION PROGRAMS

It is the Marine Corps' attitude that a better educated Marine is a better Marine. All Marines on active duty are encouraged to continue their education by taking advantage of service schools and Marine Corps funded off-duty courses at local civilian colleges. Three educational assistance programs are available to enlisted Marines.

Tuition Assistance Program

The Marine Corps Tuition Assistance Program provides Marines with financial assistance to pursue educational programs at civilian secondary and postsecondary institutions during off-duty time. Tuition assistance may only be used to fund courses at a higher academic level than the degree or diploma currently held by the Marine.

Basic Skills Education Program

The Marine Corps Basic Skills Education Program (BSEP) provides on-duty, fully funded instruction in English, English as a second language, reading, and mathematics to Marines identified as deficient in one or more of these skills. The purpose of BSEP is to enhance the professional performance of Marines within their MOSs.

Servicemembers' Opportunity Colleges

The Servicemembers' Opportunity Colleges (SOC) is a consortium of colleges and universities that have agreed to help military personnel gain access to higher education by minimizing residency requirements, recognizing nontraditional education attainment, such as the College Level Examination Program (CLEP) tests, easing the transfer of college credit of similarly accredited institutions, and granting credit for formal military training. The over 400 colleges and universities of the SOC are located throughout the United States and may be found on military bases overseas.

FOR FURTHER INFORMATION

The above information provides the general scope of enlistment policies, recruit training, follow-on training, and educational opportunities found in the Marine Corps today. Young men and women who are interested in joining the Marine Corps should contact a Marine recruiter. The Marine recruiter can explain in depth the requirements and options available based on each person's individual needs, goals, and aptitudes. High school guidance counselors also have information that will be helpful when examining the pros and cons of entering one of the military services.

Coast Guard

OVERVIEW

The Coast Guard constantly performs its mission of protecting America's coastlines and inland waterways by enforcing customs and fishing laws, combating drug smuggling, conducting search and rescue missions, maintaining lighthouses, and promoting boating safety. The Coast Guard is part of the Department of Transportation; in time of war it may be placed in the Department of Defense under the command of the Navy. A vital part of the Armed Services, the Coast Guard has participated in every major American military campaign. With a work force of about 5,000 officers and over 32,000 enlisted personnel, Coast Guard personnel perform in many different occupations to support the missions of the Coast Guard. Each year, the Coast Guard has openings for about 5,000 new enlistees in a wide range of challenging careers.

ENLISTMENT

Applicants for enlistment in the Coast Guard must be in good health, possess good moral character, and make the minimum required scores on the Armed Services Vocational Aptitude Battery (ASVAB). Coast Guard regular enlistments are for four years of active duty. Provided class openings are available, qualified applicants can be guaranteed their choice of a specific occupational training under the Coast Guard's Guaranteed School Program. Qualified applicants may also enlist up to 12 months prior to beginning active duty. Coast Guard recruits must be at least 17 years old and must not have reached their 26th birthday on the day of enlistment.

RESERVE COAST GUARD

There are approximately 12,000 Coast Guard Reservists. For those without prior service, enlistment into the Coast Guard Reserve is for a period of eight years. Programs for those without prior service include the USCGR-RP/RL, USCGR-RK, and USCGR-RY programs for individuals who are at least 17 and who have not reached their 26th birthday. Another program for those without prior service is the USCGR-RX program for individuals who are at least 26 and who have not reached their 36th birthday. The RP/RL, RK, and RY programs all include a period of basic training and class A school or on-the-job training and then release from initial active duty for training. Upon completion, these reservists return to their home and drill with their Reserve units monthly. The RX program is a direct petty officer program for persons who possess specialized civilian skills and can convert these skills to the various ratings in the Coast Guard Reserve. Reservists augment the regular Coast Guard component on a regular basis, keeping the spirit of the "One Coast Guard Family."

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TRAINING

Two types of training are provided to Coast Guard recruits: recruit training and job training.

Recruit Training

After completing the enlistment process, all Coast Guard recruits attend recruit training, or "boot camp", at Cape May, New Jersey. Boot camp lasts approximately eight weeks; it is designed to provide a transition from civilian life to that of service with the Coast Guard. The course is demanding, both physically and mentally. Coast Guard recruit training instills in each trainee a sense of teamwork and discipline. Coast Guard history, missions, customs, and basic discipline are all part of the training course. Boot camp includes physical training, classroom work, and practical application of the subjects studied.

Job Training

The Coast Guard maintains basic petty officer (class A) schools for formal training in specific occupational specialties. Courses of study in these class A schools vary from 10 to 42 weeks, depending on the rating or specialty area taught. Each school provides a course of study that leads to advancement to the Petty Officer Third Class level. Specialty schools in the other services can be used by Coast Guard personnel in addition to, or in place of, Coast Guard schools for training in certain ratings. Upon successful completion of class A school, the graduate becomes a qualified specialist and can expect assignment to a field unit for duty and further on-the-job training in his or her specialty.

Opportunities for additional professional training are available to qualified, career-oriented personnel in the form of advanced petty officer (class B) and special (class C) schools. These advanced schools range in length from a few weeks to several months, depending on the skills taught. Senior enlisted personnel in certain ratings are also eligible to compete for assignment to special degree programs within their occupational specialty areas.

ADVANCEMENT

The Coast Guard enlisted rating structure consists of paths of advancement from pay grade E-1 through E-9. Two general apprenticeships are available within pay grades E-1 through E-3: Fireman (FN) and Seaman (SN). Approximately 25 occupational fields, called ratings, exist in pay grades E-4 through E-9.

Every job in the Coast Guard has a career path leading to increased pay and responsibility--with well-defined promotion criteria. A Coast Guard Seaman Recruit (E-1) is promoted to Seaman Apprentice (E-2) upon completion of basic training. Eligibility for promotion to Seaman or Fireman (E-3) is based on four requirements: adequate time-in-grade; successful demonstration of military and professional qualifications; recommendation of the commanding officer; and completion of correspondence courses.

COAST GUARD

To earn petty officer ratings (E-4 through E-9), an individual must, in addition to the requirements above, pass the Coast Guard-wide competitive examination for the rating.

A Coast Guard enlisted member can expect to spend the majority of his or her career within the 48 contiguous states, primarily on the East, West, or Gulf Coast. The Coast Guard also has a number of units on the Great Lakes and along the Midwest's river system. At some point in his or her career, a Coast Guard member should expect to serve one or more tours of duty in an overseas assignment. Tour lengths vary from one to four years, depending upon the location of the assignment, the nature of the duty, and the preferences of the individual. The amount of sea duty varies according to the individual's rating and might range from a slight majority to a small fraction of the career. The Coast Guard, the smallest of the military forces, prides itself on its ability to give personal consideration to the needs of its members in the personnel assignment process.

EDUCATION PROGRAMS

The Coast Guard believes strongly in the continued education of its members. The Coast Guard offers several education assistance programs, including:

Tuition Assistance Program

The Coast Guard sponsors a tuition assistance program for off-duty education within the limits of available funds. This program allows Coast Guard personnel, both officer and enlisted, to enroll in off-duty courses at accredited colleges, universities, junior colleges, high schools, and commercial schools. The tuition is paid by the Coast Guard for all courses not in excess of six credits per semester (or quarter) or for any course not extending beyond one semester or a maximum of 17 weeks, whichever is longer.

Physician's Assistant Program

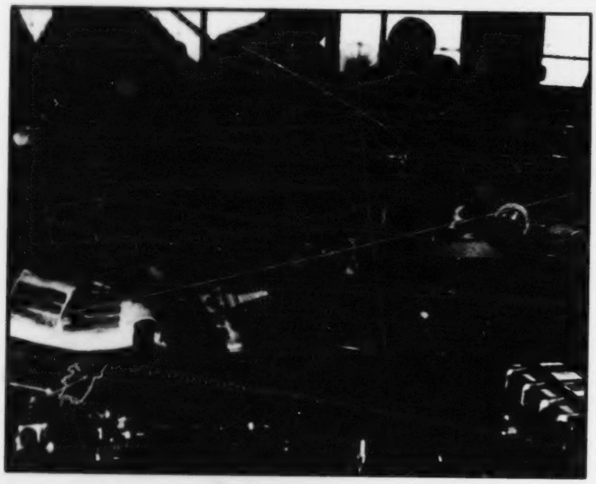
The physician's assistant program is a two-year, full-time course of study at the Duke University Medical Center, Durham, North Carolina. The program includes nine months of elementary scientific principles, terminology, and basic medical science and 15 months of clinical training. Upon successful completion, Coast Guard graduates receive their certificates as physician's assistants and a direct commission as Chief Warrant Officer (PYA). In some cases when the student has had additional college courses, completion of the program may result in a bachelor's degree in health science.

Electronics Technology Course

The advanced electronics training program for enlisted personnel is conducted at several locations throughout the country. While the specific courses of study utilized by the Coast Guard vary somewhat from school to school, they all provide a practical and theoretical mix of current state-of-the-art electronics. Electronics technology institutions prepare a Coast Guard member for duty as an engineer's assistant. During their careers, engineer's assistants participate in the design and specification of equipment and equipment modification at headquarters, headquarters' units, district offices, major vessels, and larger shore units. The programs at these institutions are all full-time resident courses and, in most cases, result in the awarding of an associate degree.

FOR FURTHER INFORMATION

Although the preceding section gives a general overview of the Coast Guard and its programs, it by no means covers all of the wide range of opportunities available in the Coast Guard. Use the *Military Career Guide* to begin exploring career possibilities in the Coast Guard. Your local Coast Guard recruiter would be pleased to supply you with current, more detailed career information. There is no obligation.



Enlisted Occupational Descriptions

Human Services Occupations

- Caseworkers and Counselors
- Recreation Specialists
- Religious Program Specialists

CASEWORKERS AND COUNSELORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Just like civilians, some military personnel can develop problems with drug or alcohol abuse. Others may develop depression or other emotional problems. Caseworkers and counselors help military personnel and their families to overcome social problems. They work as a part of a team that may include social workers, psychologists, medical officers, chaplains, personnel specialists, and commanders.

What They Do

Caseworkers and counselors in the military perform some or all of the following duties:

- Interview personnel who request help or are referred by their commanders
- Identify personal problems and determine the need for professional help
- Counsel personnel and their families
- Administer and score psychological tests
- Teach classes on human relations
- Keep records of counseling sessions and make reports to supervisors

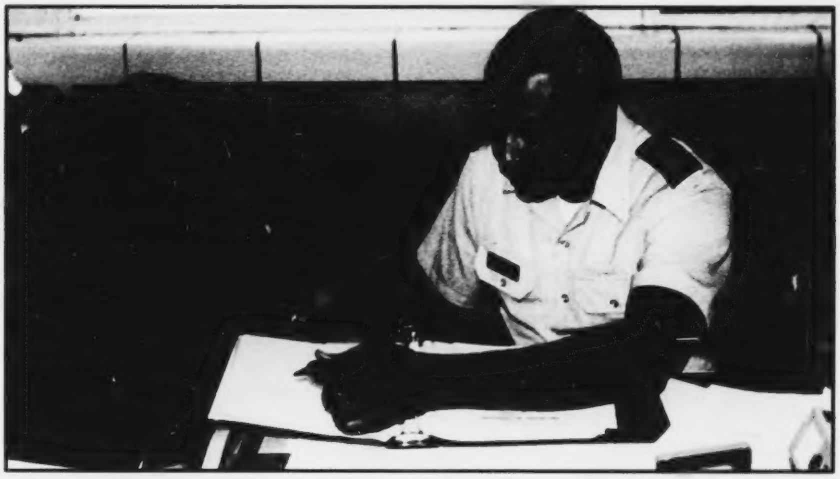
Physical Demands

Caseworkers and counselors need to speak clearly and distinctly in order to teach classes and work with personnel who have problems.

Helpful Attributes

Helpful school subjects include health, biology, social science, psychology, sociology, and speech. Helpful attributes include:

- Interest in working with people
- Patience in dealing with problems that take time and effort to overcome
- Sensitivity to the needs of others



Work Environment

Caseworkers and counselors usually work in offices or clinics.

Training Provided

Job training consists of between 8 and 10 weeks of classroom instruction, including practice in counseling. Course content typically includes:

- Orientation to counseling and social service programs
- Interviewing and counseling methods
- Treatments for drug and alcohol abuse
- Psychological testing techniques

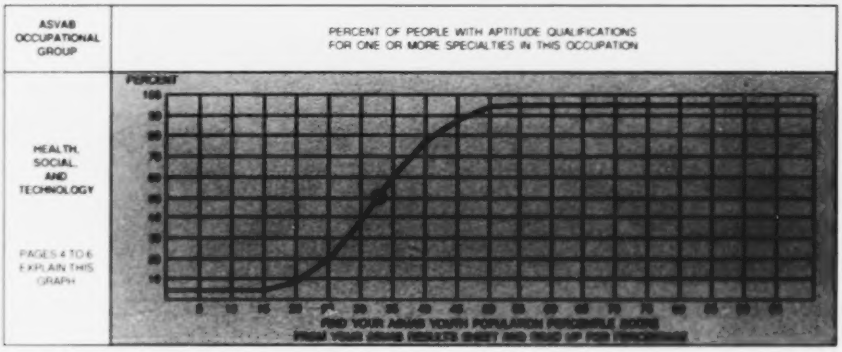
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian caseworkers and counselors work in rehabilitation centers, hospitals, schools, and public agencies. Their duties are similar to duties in the military. Civilian caseworkers and counselors, however, are usually required to have a college degree in social work, psychology, or counseling. They may be called group workers, human relations counselors, or drug and alcohol counselors.

Opportunities

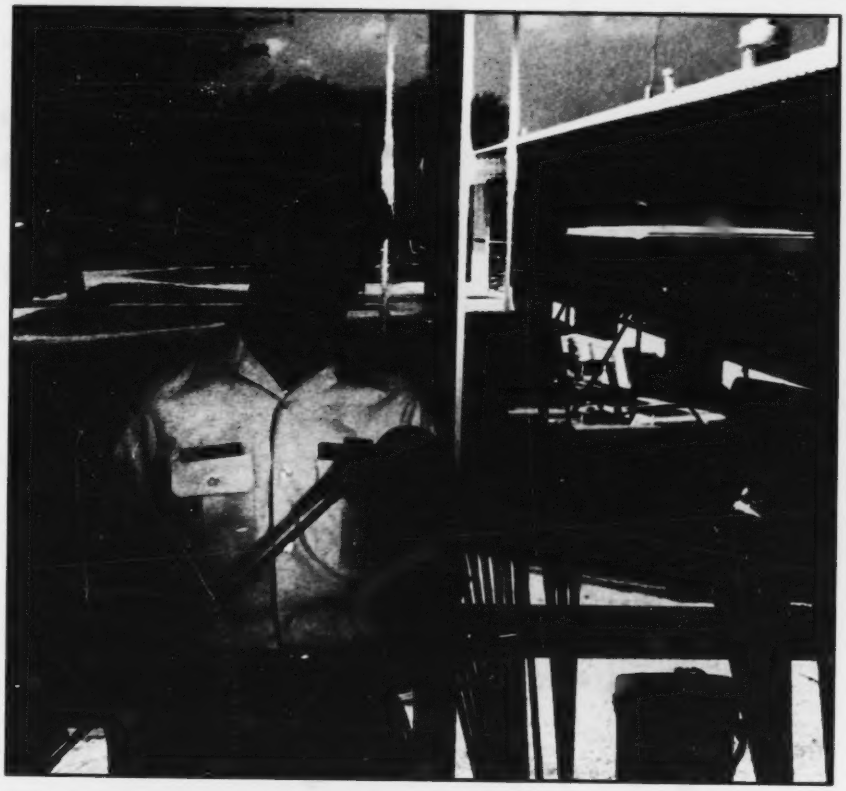
The services have about 2,500 caseworkers and counselors. On average, they need about 170 new caseworkers and counselors each year. After job training, caseworkers and counselors work under close supervision. With experience, they work more independently and may supervise other caseworkers.



RECREATION SPECIALISTS

Army
Air Force
Marine Corps

The military offers a wide variety of recreation and leisure activities for off-duty personnel. Sports such as basketball, softball, and swimming are available at most military bases. Physical conditioning programs help service members maintain their physical fitness. Recreation specialists organize and direct recreation, sports, and physical fitness programs for service members.



What They Do

Recreation specialists in the military perform some or all of the following duties:

- Plan and organize athletic competitions and games
- Run physical fitness programs
- Schedule the use of sports facilities
- Prepare gyms, tracks, ball fields, and other facilities for use
- Clean, repair, and store sports equipment
- Assist in training referees and umpires
- Publicize sports contests, arts and crafts shows, and other recreation activities

Work Environment

Recreation specialists work both indoors and outdoors.

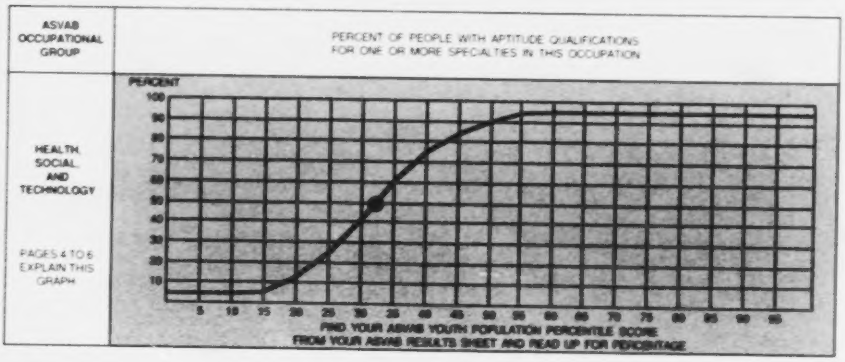
Training Provided

Training for this occupation occurs on the job.

Helpful Attributes

Helpful school subjects include business, math, and physical education. Helpful attributes include:

- Interest in working with people
- Interest in sports, athletics, and arts and crafts
- Ability to plan and organize group and individual activities



Civilian Counterparts

Civilian recreation workers may work for industry, local government, schools, and correctional institutions. They perform duties similar to military recreation workers.

Opportunities

The military has about 1,220 recreation specialists. On average, the services need about 90 new specialists each year. New specialists are assigned to recreational sections on military bases where they organize activities and maintain facilities. In time, they may manage base athletic facilities. Not all recreation specialists make their careers in this field. Some change to another military specialty after several years.

RELIGIOUS PROGRAM SPECIALISTS

Army
Navy
Air Force

The military has personnel from many religions and faiths. The military provides chaplains and religious program specialists to help meet the spiritual needs of its personnel. Religious program specialists assist chaplains with religious services, religious education programs, and related administrative duties.

What They Do

Religious program specialists in the military perform some or all of the following duties:

- Assist chaplains in planning and preparing religious programs and activities
- Assist chaplains in conducting religious services
- Prepare religious educational and devotional materials
- Organize charitable and public service volunteer programs
- Maintain relations with religious communities and public service organizations
- Perform administrative duties for chaplains, such as scheduling appointments, handling correspondence, maintaining files, and handling finances

Physical Demands

The ability to speak clearly and distinctly is required to enter this occupation.

Helpful Attributes

Helpful school subjects include English, public speaking, accounting, and typing. Helpful attributes include:

- Interest in religious guidance
- Sensitivity to the needs of others
- Knowledge of various religious customs and beliefs
- Ability to express ideas clearly and concisely
- Interest in administrative work

Work Environment

Religious program specialists in the military usually work indoors. They also serve aboard ships or with land and air units in the field.

Training Provided

Job training consists of between 7 and 8 weeks of classroom instruction. Course content typically includes:

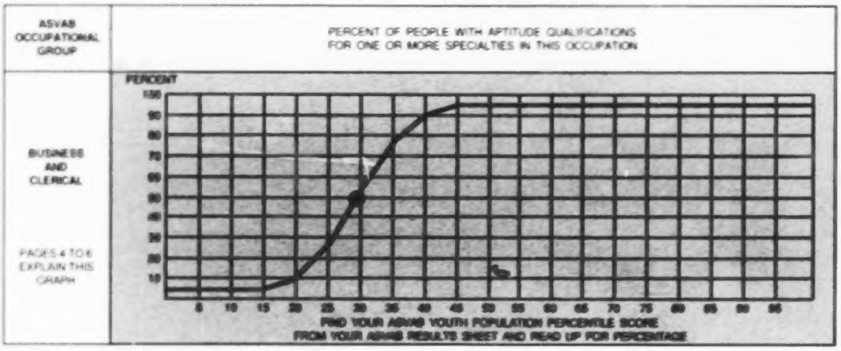
- Principles of religious support programs
- Guidance and counseling techniques
- Leadership skills
- Office procedures

Civilian Counterparts

Civilian religious program specialists help manage churches and religious schools. Their duties are similar to those performed by military religious program specialists, including planning religious programs and preparing religious educational materials. They are also called directors of religious activities.

Opportunities

The services have about 1,530 religious program specialists. On average, they need about 320 new specialists each year. After job training, religious program specialists help chaplains and supervisors with administrative matters. With experience, they gain more responsibility for organizing activities and working in the local community. In time, they may supervise other specialists.



Media and Public Affairs Occupations

- Audiovisual Production Specialists
- Graphic Designers and Illustrators
- Interpreters and Translators
- Motion Picture Camera Operators
- Musicians
- Photographers
- Radio and Television Announcers
- Reporters and Newswriters

AUDIOVISUAL PRODUCTION SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Audiovisual productions are an important part of military communications. Typical productions include training films, TV and radio broadcasts, and recordings. They require the teamwork of many specialists. Audiovisual production specialists assist producers, directors, and script writers in producing audiovisual materials. They perform many specialized tasks, ranging from script editing to operating special effects devices.

What They Do

Audiovisual production specialists in the military perform some or all of the following duties:

- Assist producers and directors in selecting and interpreting scripts
- Work with writers in preparing and revising scripts
- Determine the type of presentation needed to convey the message as intended
- Plan and design production scenery, graphics, and special effects
- Help plan the activities of audiovisual production crews
- Operate media equipment and special effects devices

Physical Demands

The ability to speak clearly is required for some specialties.

Training Provided

Job training consists of between 7 and 12 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Television studio operations
- Television production operations
- Graphic techniques
- Scripting and special effects techniques

Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for this occupation.

Helpful Attributes

Helpful school subjects include graphics, art, speech, and drama. Helpful attributes include:

- Interest in creative and artistic work
- Preference for working as part of a team
- Experience in school plays or making home movies

Work Environment

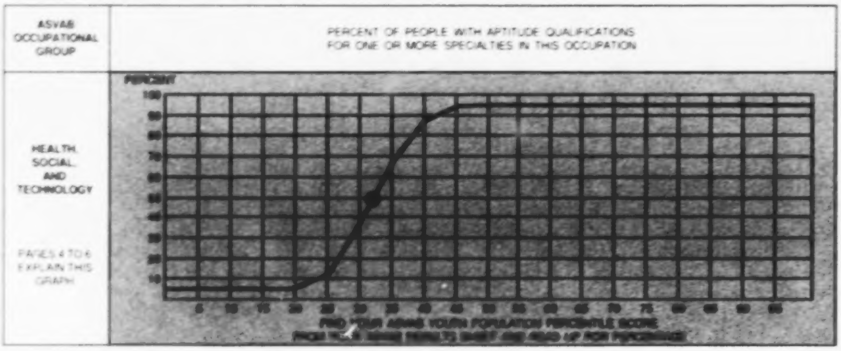
Audiovisual production specialists usually work in television or movie studios. They may work outdoors while filming or staging field exercises, sports events, or military parades.

Civilian Counterparts

Civilian audiovisual production specialists work for advertising agencies, radio and television stations, motion picture studios, and educational and training agencies. Their duties are similar to those performed in the military.

Opportunities

The services have about 1,600 audiovisual production specialists. On average, they need 170 new specialists each year. After job training, specialists work under close supervision assisting with various productions. With experience, they gain responsibility for planning parts of productions. In time, they may supervise others and become production crew superintendents.



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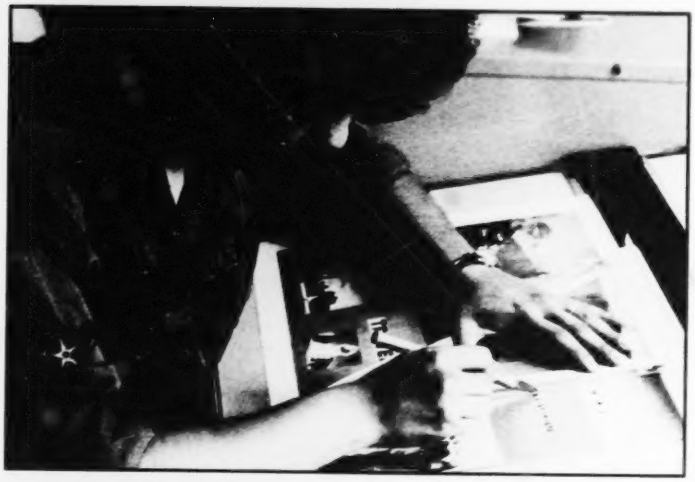
GRAPHIC DESIGNERS AND ILLUSTRATORS

Army
Navy
Air Force
Marine Corps

The military produces many publications, such as training manuals, newspapers, reports, and promotional materials. Graphic artwork is used in these publications and for signs, charts, posters, and TV and motion picture productions. Graphic designers and illustrators produce graphic artwork, drawings, and other visual displays.



What They Do

Graphic designers and illustrators in the military perform some or all of the following duties:

- Draw graphs and charts to represent budgets, numbers of troops, supply levels, and office organization
- Develop ideas and design posters and signs
- Help instructors design artwork for training courses
- Draw illustrations of parts of the human body for medical training
- Draw cartoons for filmstrips and animation for films
- Make silkscreen prints
- Work with TV and film producers to design backdrops and props for film sets

Physical Demands

Coordination of eyes, hands, and fingers are needed to draw sketches.

Work Environment

Graphic designers and illustrators usually work in offices on land or aboard ships.

Training Provided

Job training consists of about 12 weeks of classroom instruction, including practice in preparing graphic designs and illustrations. Course content typically includes:

- Introduction to graphics, lettering, drawing, and layout techniques
- Illustration and television graphic techniques
- Theory and use of color

Helpful Attributes

Helpful school subjects include art, drafting, and geometry. Helpful attributes include:

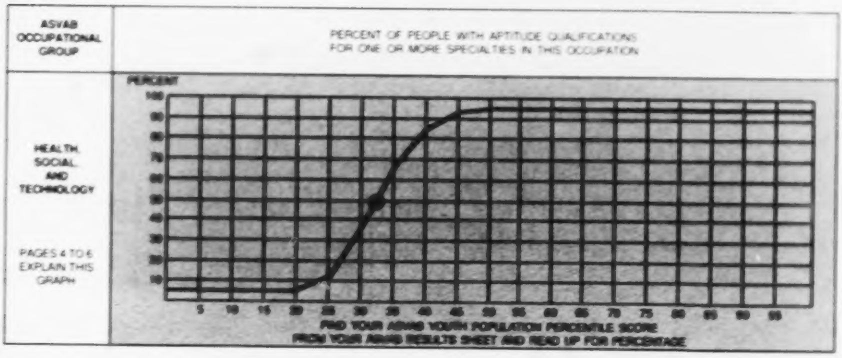
- Interest in artwork or lettering
- Ability to convert ideas into visual presentations
- Neatness and an eye for detail

Civilian Counterparts

Civilian graphic designers and illustrators work for government agencies, advertising agencies, print shops, and engineering firms. They also work for many large organizations that have their own graphics departments. Their duties are similar to military graphic designers and illustrators. They may be known as commercial artists or graphic arts technicians.

Opportunities

The services have about 1,730 graphic designers and illustrators. On average, they need about 180 designers and illustrators each year. After job training, graphic designers prepare tables, signs, and graphics under close supervision. With experience, they help formulate and produce more complex designs. In time, they may supervise others and lead large projects. Eventually, they may manage graphics departments.



INTERPRETERS AND TRANSLATORS

Army
Navy
Air Force
Marine Corps

The military must be able to read and understand the many languages of the world. Information from foreign language newspapers, magazines, and radio broadcasts is important to the nation's defense. Interpreters and translators convert written or spoken foreign languages into English or other languages. They usually specialize in a particular foreign language.

What They Do

Interpreters and translators in the military perform some or all of the following duties:

- Translate written and spoken foreign language material to and from English, making sure to preserve the original meaning
- Interrogate (question) prisoners of war, enemy deserters, and civilian informers in their native languages
- Record foreign radio transmissions using sensitive radios
- Prepare written reports about the information obtained
- Translate foreign documents, such as battle plans and personnel records
- Translate foreign books and articles describing foreign equipment and construction techniques

Special Qualifications

Fluency in a foreign language is required to enter most specialties within this occupation. Although there are women interpreters and translators, some specialities in this occupation are only open to men.

Helpful Attributes

Helpful school subjects include speech and typing. Helpful attributes include:

- Interest in foreign languages
- Interest in working with people
- Interest in reading

Physical Demands

Normal hearing and the ability to speak clearly and distinctly are usually required to enter this occupation.

Training Provided

Job training consists of between 7 and 20 weeks of classroom instruction, including practice in interpretation. Training length varies depending on specialty. Longer training is necessary for specialties that do not require foreign language fluency prior to entry. For these specialties, foreign language training for 6 to 12 months is provided. Course content typically includes:

- Interrogation (questioning) methods
- Use and care of radios
- Procedures for preparing reports

Further training occurs on the job and through advanced courses.

Work Environment

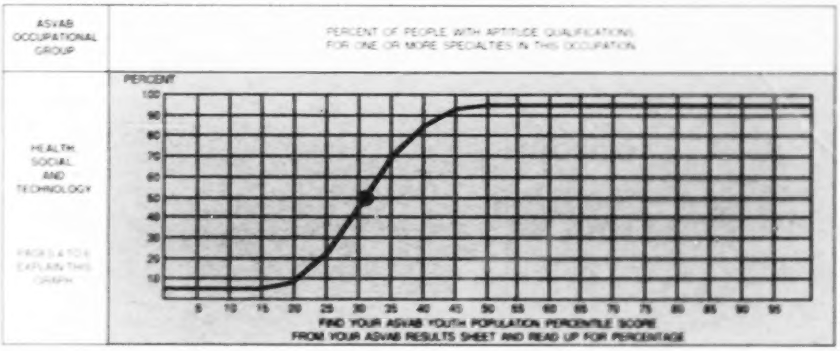
Interpreters and translators normally work on military bases, aboard ships, or in airplanes.

Civilian Counterparts

Civilian interpreters and translators work for government agencies, embassies, universities, and companies that conduct business overseas. Their work is similar to the work of military interpreters and translators.

Opportunities

The military has about 6,400 interpreters and translators. On average, the services need about 1,200 new interpreters and translators each year. After job training, interpreters and translators work under the direction of more experienced workers and supervisors. With experience, they work more independently. In time, interpreters and translators may become directors of translation for large bases.



MOTION PICTURE CAMERA OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Television and film productions are an important part of military communications. Films are used for training in many military occupations. They are also used to record military operations, ceremonies, and news events. Motion picture camera operators film actual or simulated scenes using motion picture equipment. They also operate television cameras in military TV studios.

What They Do

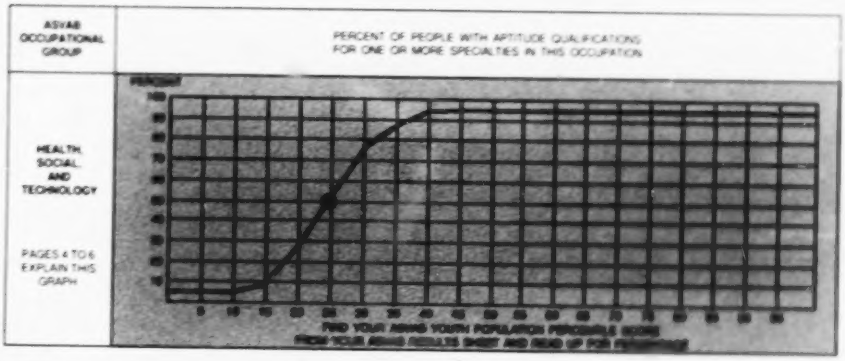
Motion picture camera operators in the military perform some or all of the following duties:

- Set up and operate motion picture equipment, including cameras, sound recorders, and lights
- Operate television cameras in TV studios and remote sites
- Follow script and instructions of film or TV directors to move cameras, zoom, pan, or adjust focus

Helpful Attributes

Helpful school subjects include photography, art, and mathematics. Helpful attributes include:

- Interest in photography
- Experience in making home movies
- Ability to follow detailed, spoken directions



Training Provided

Job training consists of between 7 and 14 weeks of instruction, including practice in motion picture filming. Training length varies depending on specialty. Course content typically includes:

- Motion picture equipment operation
- Filming controlled and uncontrolled events
- Composition and camera movement
- TV studio operations
- Audio recording

The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

Motion picture camera operators work in studios and outdoors on location. They sometimes film from aircraft or ships. They travel and work in all climates.

Civilian Counterparts

Civilian motion picture camera operators work for film production companies, TV networks and stations, and government audiovisual studios. Some work as independent film makers. Their duties are similar to military motion picture camera operators.

Opportunities

The services have about 1,470 motion picture camera operators. On average, they need about 170 new operators each year. After job training, operators assist with many aspects of film or TV production. With experience, they become more involved in planning and directing productions. Eventually, they may become directors of photography for one or more film crews or technical chiefs of TV studios.

MUSICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

Music is an important part of military life. Service bands and vocal groups have a strong tradition of performing at ceremonies, parades, concerts, festivals, and dances. Musicians and singers perform in service bands, orchestras, and small groups. They perform many types of music, including marches, classics, jazz, and popular music.

What They Do

Musicians in the military perform some or all of the following duties:

- Play in or lead bands, orchestras, combos, and jazz groups
- Sing in choral groups or as soloists
- Perform for ceremonies, parades, concerts, festivals, and dances
- Rehearse and learn new music when not performing
- Play brass, percussion, woodwind, or string instruments

Special Qualifications

To qualify for a service band, applicants must pass one or more auditions. They must be fairly accomplished musicians and have good music sight-reading ability.

Helpful Attributes

Helpful school subjects include band, music theory, harmony, and other music courses. Helpful attributes include:

- Poise when performing in public
- Ability to play more than one instrument
- Ability to sing

Work Environment

Musicians play indoors in theaters, concert halls, and at dances and outdoors at parades and open-air concerts. They travel regularly.

Training Provided

Although musicians must be musically proficient to enter the service, music training is given to new band members. Job training consists of between 11 and 24 weeks of classroom instruction, including practice playing instruments. Training length varies depending on musical specialty. Course content typically includes:

- Music theory
- Group instrumental techniques
- Sight reading musical scores
- Dance band techniques

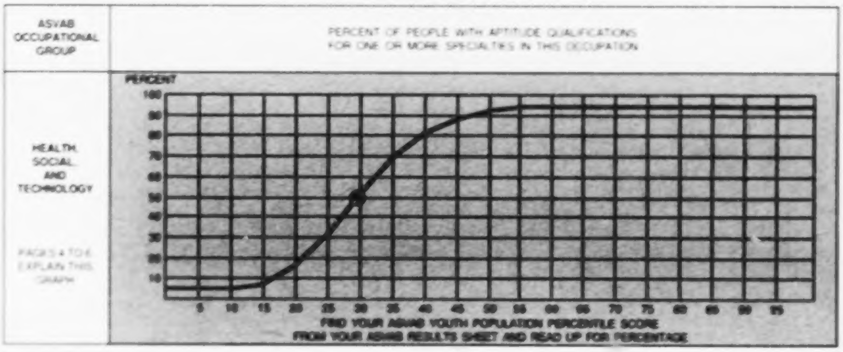
Further training occurs on the job through regular rehearsals and individual practice.

Civilian Counterparts

Civilian musicians work for many types of employers, including professional orchestras, bands, and choral groups. They work in nightclubs, concert halls, theaters, and recording studios.

Opportunities

The services have about 5,860 musicians. On average, they need about 610 new musicians each year. After job training, musicians are assigned to band units located with U.S. forces around the world. They perform as members of bands and vocal groups. In time, they may become head of their instrument section and, possibly, bandleader or orchestra conductor. The most outstanding performers are selected for the official service bands or orchestras of their service.



PHOTOGRAPHERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses photographs for many purposes, such as intelligence gathering and news reporting. Aerial photographs record foreign military movements and weapon placement. Photographs are also used for news, publicity, training, and map-making. Photographers take and develop still photographs in color or black and white.

What They Do

Photographers in the military perform some or all of the following duties:

- Select camera, film, and other equipment needed for photo assignments
- Determine camera angles, lighting, and any special effects needed
- Take still photos of people, events, military equipment, land areas, and other subjects
- Develop and retouch negatives
- Print and duplicate photos or slides
- Write captions or news articles about the subjects in the photographs

Helpful Attributes

Helpful school subjects include photography, art, chemistry, and mathematics. Helpful attributes include:

- Interest in photography
- A good eye for composing subjects to be photographed
- Ability to recognize interesting photo subjects

Training Provided

Job training consists of between 7 and 22 weeks of instruction, including practice in taking and developing photographs. Length of training varies depending on the specialty. Course content typically includes:

- Principles of photojournalism
- Photographic processing and reproduction
- Operation and maintenance of photographic equipment

The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

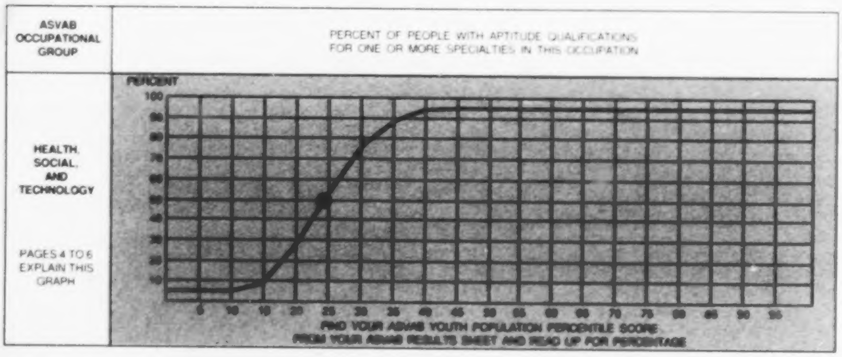
Photographers travel routinely to photograph their subjects on location. They work both indoors and outdoors in all climates. They sometimes take photographs from aircraft or ships.

Civilian Counterparts

Civilian photographers work for photography studios, newspapers, magazines, advertising agencies, and large businesses. Some photographers freelance (work independently). Depending on the specialty, they may be known as photojournalists, aerial photographers, or still photographers.

Opportunities

The services have about 2,420 photographers. On average, they need about 240 new photographers each year. After job training, photographers work under supervision on special assignments. With experience, they are given responsibility to select photo subjects and are permitted to work more independently. In time, they may become supervisors of photographic laboratories or of news offices.



RADIO AND TELEVISION ANNOUNCERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses radio and television to present news, entertainment, and information of special interest to military personnel. Radio and TV provide a special link to home for U.S. military forces overseas. Radio and television announcers write and present news programs, music programs, and radio talk shows. In small stations, they may also produce and direct programs.

What They Do

Radio and television announcers perform some or all of the following duties:

- Investigate and write news stories
- Choose topics of special interest for broadcast
- Narrate special event broadcasts
- Interview guests
- Assist public affairs officers in responding to inquiries from commercial broadcast media
- Maintain tape, film, and record libraries

Physical Demands

Radio and television announcers are required to pass a voice audition. A clear speaking ability is also required.

Special Qualifications

Basic typing ability is required to enter some specialties in this occupation.

Helpful Attributes

Helpful school subjects include English, journalism, public speaking, and typing. Helpful attributes include:

- Ability to write clearly and concisely
- Strong, clear speaking voice
- Interest in music, sports, and current events

Work Environment

Radio and television announcers usually work in broadcasting studios on land or aboard ships.

Training Provided

Job training consists of between 10 and 12 weeks of classroom instruction, including experience in actual announcing. Course content typically includes:

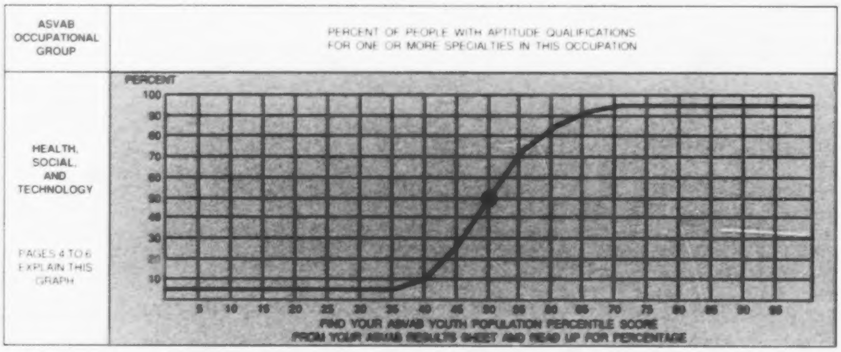
- News writing
- Announcing and interviewing techniques
- Programming and production techniques
- Military broadcasting procedures

Civilian Counterparts

Civilian radio and television announcers work for commercial and public broadcasting firms, as well as other businesses in the entertainment industry. They perform duties similar to their military counterparts. They are employed as newscasters, disc jockeys, writers, directors, and producers. Civilian radio and television announcers may also work as station managers or supervisors.

Opportunities

The military has about 600 radio and television announcers. On average, the services need about 100 new announcers each year. Radio and television announcers usually work with little supervision. As they gain experience, they may manage broadcasting stations.



REPORTERS AND NEWSWRITERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military publishes newspapers and broadcasts television and radio programs for its personnel and the public. These news services are an important source of general information about people and events in the military. Reporters and newswriters investigate and write news articles for publication and broadcast.

What They Do

Reporters and newswriters in the military perform some or all of the following duties:

- Gather information for military news programs and publications
- Write radio and TV scripts
- Develop ideas for news articles
- Arrange and conduct interviews
- Collect information for commercial media use
- Select photographs and write captions for news articles
- Write news releases, feature articles, and editorials

Helpful Attributes

Helpful school subjects include English, journalism, speech, typing, and media communications. Helpful attributes include:

- Ability to keep detailed and accurate records
- Interest in researching facts and issues for news stories
- Ability to write clearly and concisely

Work Environment

Reporters and newswriters work indoors or outdoors, depending upon the research needed for their articles.

Training Provided

Job training consists of between 9 and 11 weeks of classroom instruction. Course content typically includes:

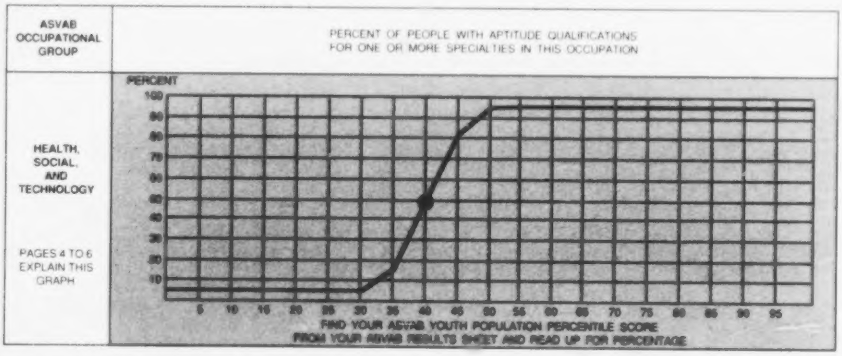
- Newswriting and research
- Interviewing techniques
- Newspaper format and layout
- Photojournalism (writing news stories featuring pictures)
- Radio and television programming and production

Civilian Counterparts

Civilian reporters and newswriters work for newspapers, magazines, wire services, and radio and television stations. Their duties are similar to those performed by military reporters and newswriters. However, civilians often specialize in one area of coverage, such as politics, sports, film, or foreign affairs. They may be called copy writers, editors, news editors, editorial assistants, or correspondents.

Opportunities

The military has about 2,570 reporters and newswriters. On average, the services need about 260 new reporters and newswriters each year. After job training, they research news stories under close supervision. With experience, they work more independently and are given more editorial control over news stories. Eventually, reporters and newswriters may become editorial assistants or editors of military publications or broadcast programs.



Health Care Occupations

- Cardiopulmonary and EEG Technicians
- Dental Specialists
- Medical Laboratory Technicians
- Medical Record Technicians
- Medical Service Technicians
- Nursing Technicians
- Occupational Therapy Specialists
- Operating Room Technicians
- Optometric Technicians
- Orthopedic Technicians
- Orthotic Specialists
- Pharmacy Technicians
- Physical Therapy Specialists
- Radiologic (X-Ray) Technicians
- Respiratory Therapists

CARDIOPULMONARY AND EEG TECHNICIANS

Army
Navy
Air Force

The military provides medical treatment to personnel with heart, lung, and brain disorders. Doctors need sophisticated tests to help diagnose and treat these problems. Cardiopulmonary and EEG (electroencephalograph) technicians administer a variety of diagnostic tests of the heart, lung, blood, and brain. They operate complicated electronic testing equipment.

What They Do

Cardiopulmonary and EEG technicians in the military perform some or all of the following duties:

- Take patients' blood pressure readings
- Attach electrodes or microphones to the patients' bodies
- Help doctors revive heart attack victims
- Adjust settings and operate test equipment
- Watch dials, graphs, and screens during tests
- Talk to physicians to learn what tests or treatments are needed
- Keep records of test results and discuss them with medical staff
- Operate electrocardiographs, electroencephalographs, and other test equipment

Helpful Attributes

Helpful school subjects include algebra, chemistry, biology, or related courses. Helpful attributes include:

- Interest in electronic equipment
- Ability to follow strict standards and procedures
- Interest in learning how the heart, lungs, and blood work together

Work Environment

Cardiopulmonary and EEG technicians usually work in hospitals and clinics. In combat situations, they may work in mobile field hospitals.

Training Provided

Job training consists of between 26 and 30 weeks of classroom instruction. Course content typically includes:

- Diagnostic procedures
- Operation and maintenance of diagnostic equipment
- Preparation of patients for testing
- Methods of resuscitation

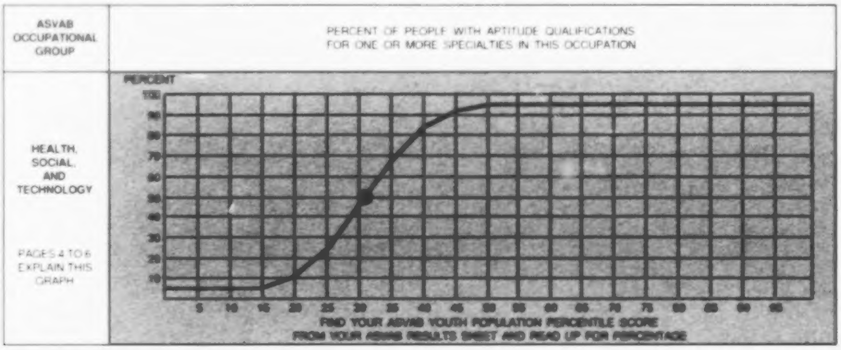
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian cardiopulmonary and EEG technicians work in hospitals, clinics, and doctors' offices. Their duties are similar to those performed in the military. They may specialize in either cardiovascular (heart), pulmonary (lungs), or electroencephalographic (brain) testing.

Opportunities

The services have about 600 cardiopulmonary and EEG technicians. On average, they need 70 new technicians each year. After job training, new technicians are assigned to hospitals and clinics, where they work under the supervision of physicians and senior technicians. With experience, they may supervise others and assist in managing clinics.



DENTAL SPECIALISTS

Army
Navy
Air Force
Coast Guard

Dental care is one of the health services provided to all military personnel. It is available in military dental clinics all over the world. Dental specialists assist military dentists in examining and treating patients. They also help manage dental offices.

What They Do

Dental specialists in the military perform some or all of the following duties:

- Help dentists perform oral surgery
- Prepare for patient examinations by selecting and arranging instruments and medications
- Help dentists during examinations by preparing dental compounds and operating dental equipment
- Clean patients' teeth using scaling and polishing instruments and equipment
- Operate dental X-ray equipment and process X-rays of patients' teeth, gums, and jaws
- Provide guidance to patients on daily care for their teeth
- Perform administrative duties, such as scheduling office visits, keeping patient records, and ordering dental supplies

Work Environment

Dental specialists in the military usually work indoors in dental offices or clinics. Some specialists may be assigned to duty aboard ship.

Physical Demands

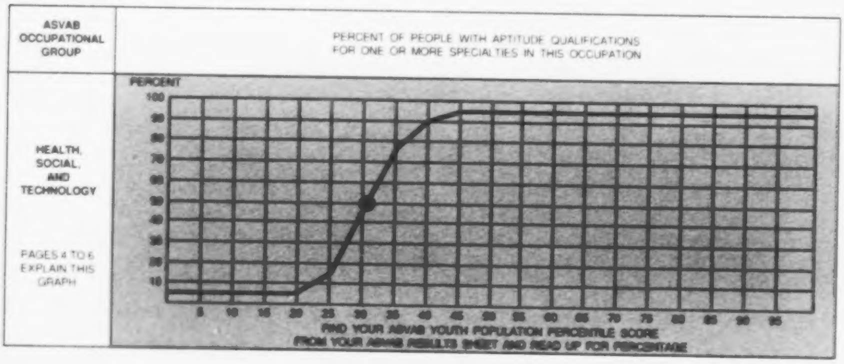
Dental specialists must sometimes stand for long periods.

Training Provided

Job training consists of between 9 and 14 weeks of classroom instruction, including practice in dental care tasks. Course content typically includes:

- Preventive dentistry
- Radiology (X-ray) techniques
- Dental office procedures
- Dental hygiene procedures

Further training occurs on the job and through advanced courses.



Helpful Attributes

Helpful school subjects include biology and chemistry. Helpful attributes include:

- Good eye-hand coordination
- Ability to follow spoken instructions
- Ability to follow detailed procedures
- Interest in working with people

Civilian Counterparts

Civilian dental specialists work in dental offices or clinics. Their work is similar to work in the military. They typically specialize in assisting dentists to treat patients, provide clerical support (dental assistants), or clean teeth (dental hygienists).

Opportunities

The military has about 6,200 dental specialists. On average, the services need about 1,000 new specialists each year. After job training, new specialists are assigned to dental offices or clinics, where they work under the supervision of dental officers. With experience, dental specialists perform more difficult tasks involving patient care. In time, they may become responsible for assisting dental officers in the management of dental programs.

MEDICAL LABORATORY TECHNICIANS

Army
Navy
Air Force
Coast Guard

Medical laboratories are an important part of the military health care system. The staffs of medical laboratories perform clinical tests required to detect and identify diseases in patients. Medical laboratory technicians conduct tests on the tissue, blood, and body fluids of medical patients.

What They Do

Medical laboratory technicians in the military perform some or all of the following duties:

- Use lab equipment to analyze specimens (samples) of tissue, blood, and body fluids
- Examine blood and bone marrow under microscopes
- Test specimens for bacteria or viruses
- Draw blood from patients
- Assist in collecting specimens at autopsies (medical examinations of the dead)
- Record and file results of laboratory tests

Helpful Attributes

Helpful school subjects include biology, chemistry, and algebra. Helpful attributes include:

- Interest in scientific and technical work
- Ability to follow detailed procedures precisely

Training Provided

Job training consists of between 12 and 36 weeks of classroom and on-the-job instruction, including practice in testing specimens. Training length varies depending on specialty. Course content typically includes:

- Medical laboratory procedures
- Study of human parasites and diseases
- Laboratory administration and record keeping

Work Environment

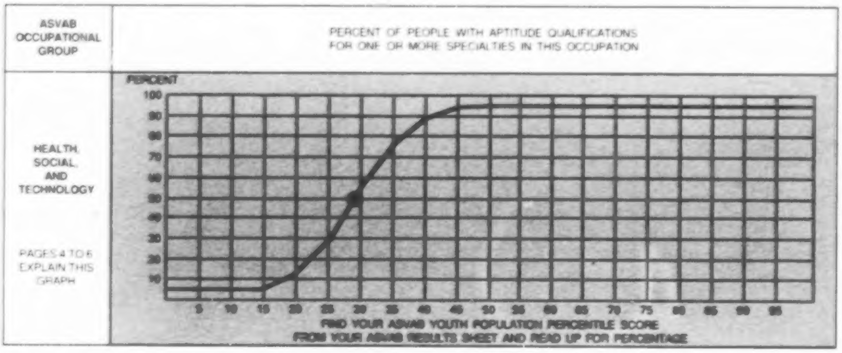
Medical laboratory technicians work in medical centers, clinics, and hospitals on land or aboard ships.

Civilian Counterparts

Civilian medical laboratory technicians usually work for privately owned laboratories, hospitals, clinics, or research institutions. They perform duties similar to military medical laboratory technicians.

Opportunities

The military has about 6,080 medical laboratory technicians. On average, the services need about 650 new technicians each year. After job training, technicians perform routine laboratory tests under close supervision. With experience, they do more complex testing and analysis and work more independently. After demonstrating job proficiency, medical laboratory technicians help train new technicians and supervise laboratory personnel. In time, they may advance to laboratory management positions.



MEDICAL RECORD TECHNICIANS

Army
Navy
Air Force
Coast Guard

Medical records are important for health care delivery. To provide proper treatment, doctors need complete and accurate information about patient symptoms, test results, illnesses, and prior treatments. Medical record technicians prepare and maintain patient records, reports, and correspondence.

What They Do

Medical record technicians in the military perform some or all of the following duties:

- Fill out admission and discharge records for patients entering and leaving military hospitals
- Assign patients to hospital rooms
- Prepare daily reports about patients admitted and discharged
- Organize, file, and maintain medical records
- Type reports about physical examinations, illnesses, and treatments
- Prepare tables of medical statistics
- Maintain libraries of medical publications

Helpful Attributes

Helpful school subjects include general science and business administration. Helpful attributes include:

- Interest in work requiring accuracy and attention to detail
- Ability to communicate well
- Interest in using typewriters and other office machines

Training Provided

Job training consists of between 6 and 18 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Medical terminology
- Medical records preparation and maintenance
- Maintenance of medical libraries
- Basic typing skills

Work Environment

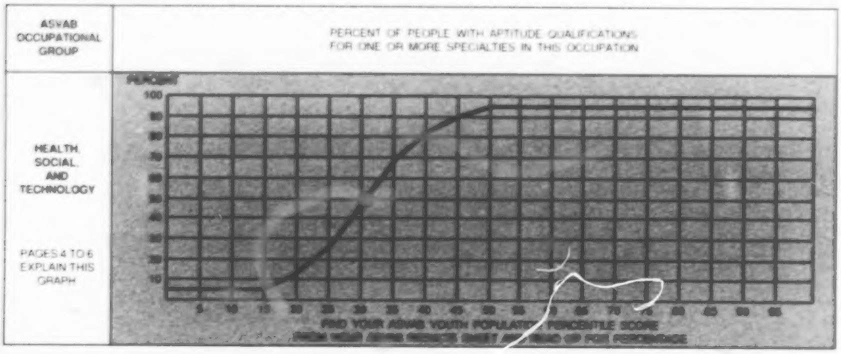
Medical record technicians work in admissions or medical records sections of hospitals and clinics. They work in land-based facilities and aboard ships.

Civilian Counterparts

Civilian medical record technicians usually work for hospitals, clinics, and government health agencies. They perform duties similar to military medical record technicians. However, civilian medical record technicians tend to specialize in areas such as admissions, ward, or outpatient records. Those working in admission or discharge units are called admitting or discharge clerks.

Opportunities

The services have about 6,920 medical record technicians. On average, they need about 720 new technicians each year. After training, new technicians are assigned to hospitals or clinics, where they work under close supervision. With experience, they may assume supervisory positions and may manage medical record units, or admission or discharge units.



MEDICAL SERVICE TECHNICIANS

Army
Navy
Air Force
Coast Guard

In emergencies or in combat, physicians are not always immediately available to treat the injured or wounded. When a doctor is not available, medical service technicians provide basic and emergency medical treatment. They also assist medical officers in caring for sick and injured patients.

What They Do

Medical service technicians in the military perform some or all of the following duties:

- Examine and treat emergency or battlefield patients
- Interview patients and record their medical histories
- Take patient temperature, pulse, and blood pressure
- Prepare blood samples for laboratory analysis
- Keep health records and clinical files up to date
- Give shots and medicines to patients

Work Environment

Medical service technicians usually work in hospitals and clinics on land or aboard ships. Medical service technicians may give emergency medical treatment in the field.

Training Provided

Job training consists of between 16 and 54 weeks of classroom instruction, depending on specialty. Course content typically includes:

- Emergency medical treatment
- Basic nursing care
- Study of the human body
- Minor surgical procedures
- Clinical laboratory procedures
- Methods for diagnosing diseases

Further training occurs on the job and through advanced courses.

Physical Demands

Medical service technicians may have to lift and carry wounded or injured personnel during emergency situations. Air medical evacuation specialists must pass a flight physical exam.

Civilian Counterparts

Civilian medical service technicians work in hospitals, clinics, nursing homes, and rehabilitation centers. They perform duties similar to those performed by medical service technicians in the military. Civilian medical service technicians are known for the type of work they do: emergency medical technicians treat victims of accidents, fire, or heart attacks; medical assistants work for physicians and perform routine medical and clerical tasks; medication aides give shots and medicine under the close supervision of physicians; and physician assistants perform routine examinations and treatment for physicians.

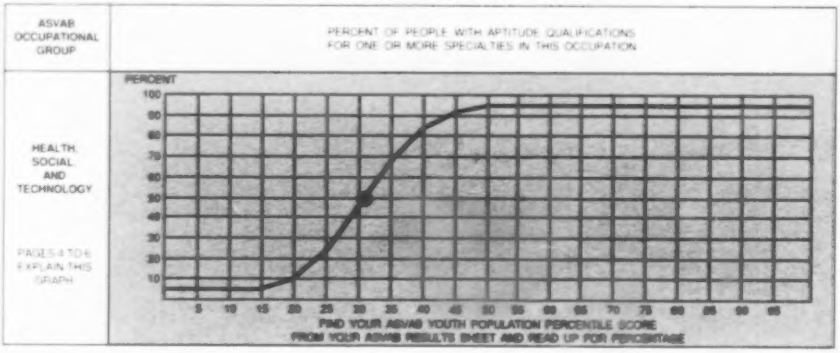
Helpful Attributes

Helpful school subjects include chemistry, biology, psychology, general science, and algebra. Helpful attributes include:

- Interest in helping and caring for others
- Ability to communicate effectively
- Ability to work under stressful conditions

Opportunities

The services have about 40,140 medical service technicians. On average, they need about 8,050 new technicians each year. After job training, technicians are assigned to serve in their medical specialty. They work under the direction and supervision of medical officers and experienced medical service technicians. Eventually, they may advance to supervisory positions and help manage a medical facility.



NURSING TECHNICIANS

Army
Navy
Air Force

The military provides medical care to all men and women in the services. Nursing teams give patients the personal treatment and individual attention required to help them recover from illness or injury. Nursing technicians assist doctors and registered nurses in providing care and treatment to patients.

What They Do

Nursing technicians in the military perform some or all of the following duties:

- Provide bedside care in hospitals, including taking the body temperature, pulse, and respiration rate of patients
- Serve food and feed patients requiring help
- Bathe and dress patients
- Change bed linens and clean hospital rooms
- Observe patients and inform nurses or doctors if problems develop
- Give medication to patients, under the direction of doctors and nurses
- Drive ambulances and assist doctors and nurses in providing emergency treatment

Physical Demands

Nursing technicians may have to lift and support patients. Air medical evacuation specialists must pass a flight physical exam.

Work Environment

Nursing technicians work in hospitals and clinics on land or aboard ships. In combat situations, they may work in mobile field hospitals.

Training Provided

Job training consists of between 7 and 40 weeks of classroom instruction, including practice in patient care. Training length varies depending on specialty. Course content typically includes:

- Basic hospital procedures
- Patient care techniques
- Emergency medical techniques

Further training occurs on the job and through advanced courses.

Helpful Attributes

Helpful school subjects include general science, biology, and psychology. Helpful attributes include:

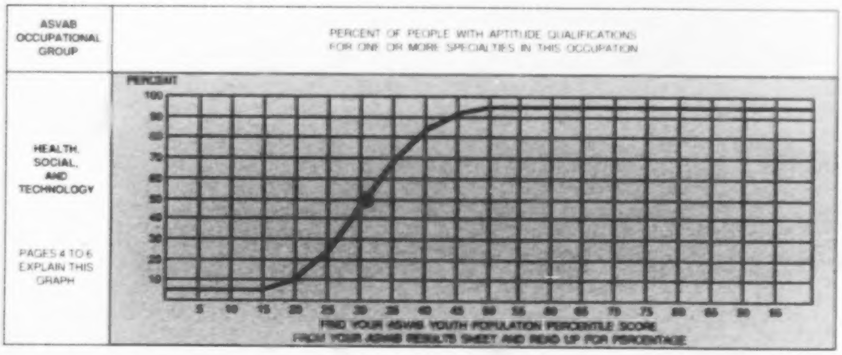
- Desire to help others
- Interest in working in the health field
- Ability to follow directions precisely

Civilian Counterparts

Civilian nursing technicians work in hospitals, nursing homes, rehabilitation centers, psychiatric hospitals, or doctors' offices. Their work is similar to duties performed in the military. Those with less than a year of formal training may be called nurses aides, orderlies, or psychiatric aides. Those who have completed practical nurse training are called practical nurses or licensed practical nurses.

Opportunities

The services have about 13,190 nursing technicians. On average, they need about 1,300 new technicians each year. After job training, technicians are assigned to hospitals and clinics, where they work under close supervision. With experience, they work more independently and may help train others. With additional training, they may transfer to related health care service occupations, such as radiology technician or medical lab technician.



OCCUPATIONAL THERAPY SPECIALISTS

Army
Navy
Air Force
Coast Guard

Occupational therapy is a program of exercise and treatment for patients disabled from illness or injury. Occupational therapy helps patients adjust to disabilities, regain independence, and prepare to return to work. Occupational therapy specialists help rehabilitate patients with physical or emotional problems. They assist occupational therapists in administering therapy programs.

What They Do

Occupational therapy specialists in the military perform some or all of the following duties:

- Interview patients to determine the extent of problems
- Test patients to determine physical and mental abilities
- Assist occupational therapists to plan exercise schedules
- Schedule patients for treatment
- Fit and adjust artificial limbs (prostheses)
- Teach patients new mobility skills
- Set up and maintain equipment, such as exercise machines and whirlpools

Helpful Attributes

Helpful school subjects include general science, biology, and psychology. Helpful attributes include:

- Interest in working with and helping people
- Patience to work with long-term disabilities
- Ability to communicate effectively

Civilian Counterparts

Civilian occupational therapy specialists work for hospitals, schools, rehabilitation centers, and community mental health centers. They perform duties similar to military occupational therapy specialists. Civilian occupational therapy specialists tend to specialize in the type of patients they serve, such as children, persons who have lost arms or legs (amputees), or the elderly. They may also be called occupational therapy assistants or occupational therapy aids.

Work Environment

Occupational therapy specialists work in hospitals and clinics.

Training Provided

Job training consists of between 25 and 31 weeks of classroom instruction, including practice in applying occupational therapy techniques. Course content typically includes:

- Anatomy, physiology, and psychology (the study of the body, body functions, and the mind)
- Methods of therapy, including massage, electric therapy, and radiation therapy
- Procedures for assisting occupational therapists

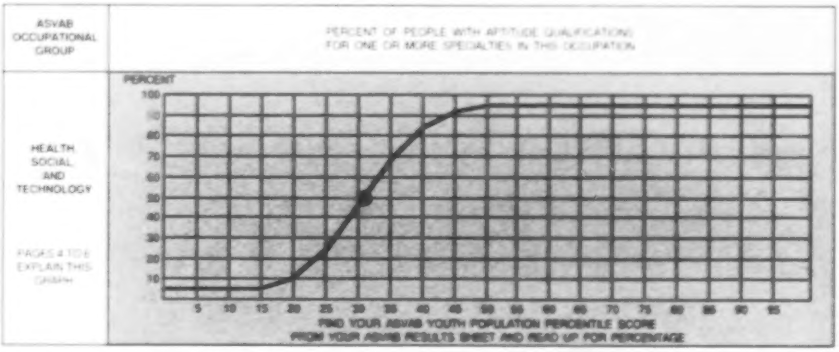
Further training occurs on the job and through advanced courses.

Physical Demands

Occupational therapy specialists must sometimes lift and support patients during exercises and treatments.

Opportunities

The military has about 200 occupational therapy specialists. On average, the services need about 30 new specialists each year. After job training, occupational therapy specialists provide routine therapy care, such as operating whirlpool equipment, under the direction of supervisors. With experience, they work with patients with more serious problems. Eventually they have the opportunity to become supervisors, planning and directing the activities of other occupational therapy specialists.



OPERATING ROOM TECHNICIANS

Army
Navy
Air Force
Coast Guard

Surgery is a major element of the medical care provided by the military. It is required to treat many injuries and diseases. During combat, surgery is often required to treat the wounded. Surgical operations are performed by teams of doctors, nurses, and other health care specialists. Operating room technicians prepare operating rooms, equipment, and supplies for use during surgery. They also remove stitches, hold instruments, and supply sterile materials as directed by surgeons.

What They Do

Operating room technicians in the military perform some or all of the following duties:

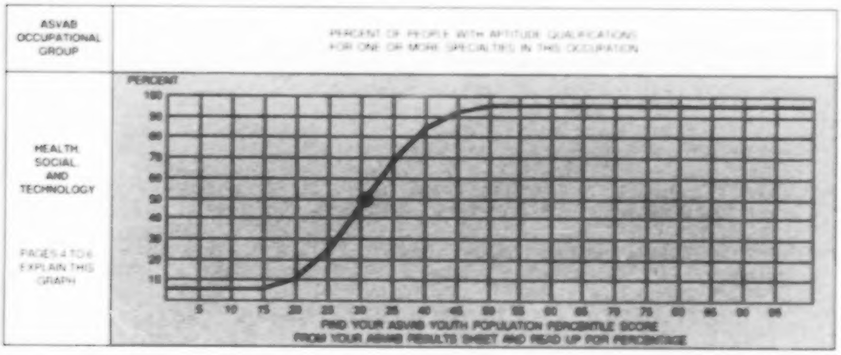
- Prepare patients for surgery
- Clean and disinfect operating rooms
- Sterilize instruments
- Prepare surgical supplies and equipment
- Keep count of sponges, needles, and instruments used in surgery
- Pass sterile instruments and supplies to surgeons

Physical Demands

Operating room technicians need sufficient strength to lift and move patients while preparing them for surgery. They must have a normal skin condition to guard against infection.

Work Environment

Operating room technicians usually work in hospitals or clinics on land or aboard ships. In combat situations, they may work in mobile field hospitals.



Helpful Attributes

Helpful school subjects include general science, biology, chemistry, hygiene, and psychology. Helpful attributes include:

- Interest in helping others
- Ability to follow spoken instructions
- Ability to work under stressful or emergency conditions

Training Provided

Job training consists of between 8 and 26 weeks of classroom instruction, including practice in operating room procedures. Training length varies depending on specialty. Course content typically includes:

- Methods of sterilizing surgical equipment and instruments
- Identification and care of surgical instruments
- Scrub assistant duties
- Pre- and post-operative patient care

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian operating room technicians work in hospitals, surgical clinics, and emergency medical clinics. Their duties are similar to those performed in the military.

Opportunities

The services have about 3,100 operating room technicians. On average, they need about 330 new technicians each year. After job training, new technicians are assigned to hospitals or medical units, where they work under the direction of operating room nurses. With experience, they may advance to supervisory positions or assist nurses and surgeons in specialized fields. In time, they may help manage operating room facilities.

OPTOMETRIC TECHNICIANS

Army
Navy
Air Force

Optometry, or vision care, is one of the many health benefits available to military personnel. The military operates its own clinics to examine eyes and fit glasses or contact lenses. Optometric technicians assist optometrists in providing vision care. They work with patients and manage clinic offices.

What They Do

Optometric technicians in the military perform some or all of the following duties:

- Perform screening tests of patients' vision and record results
- Order eyeglasses and contact lenses from prescriptions
- Measure patients to determine eyeglass frame size needs
- Fit eyeglasses to patients
- Make minor repairs to glasses
- Place eyedrops and ointment into patients' eyes
- Keep records in optometry offices

Helpful Attributes

Helpful school subjects include algebra, geometry, biology, and related courses. Helpful attributes include:

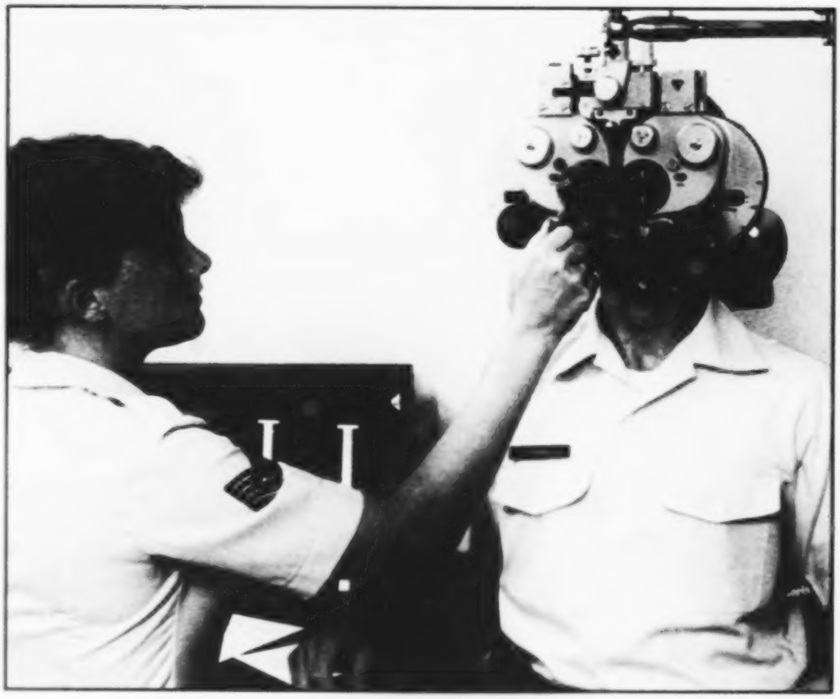
- Interest in helping people
- Interest in work requiring accuracy and attention to detail
- Ability to communicate effectively

Training Provided

Job training consists of between 9 and 13 weeks of classroom instruction, including practice in optometric procedures. Course content typically includes:

- Preparing and fitting glasses and contact lenses
- Vision testing
- Maintenance of optometric instruments

Further training occurs on the job.



Work Environment

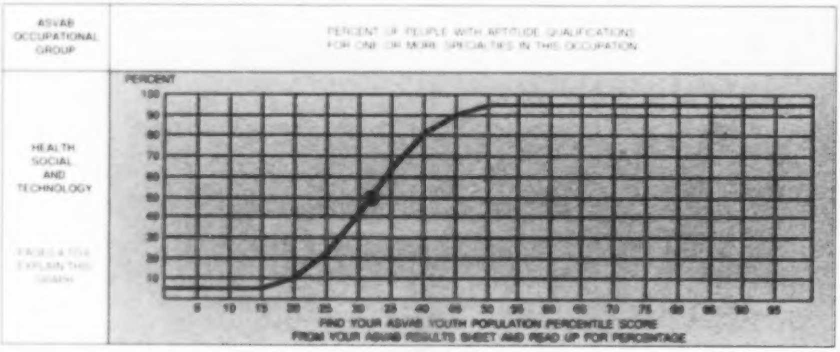
Optometric technicians normally work in optometric clinics.

Civilian Counterparts

Civilian optometric technicians work in private optometry offices, clinics, and government health agencies. They perform duties similar to those performed by military optometric technicians. Optometric technicians are also called optometric assistants.

Opportunities

The services have about 800 optometric technicians. On average, they need 80 new technicians each year. After training, new technicians give simple vision tests under close supervision and perform office duties. As they gain experience, they work with less supervision and perform more difficult tasks. In time, they may help to manage optometric clinics.



ORTHOPEDIC TECHNICIANS

Army
Navy
Air Force

Orthopedics is a medical specialty for treating patients with broken or injured arms and legs. Orthopedic devices, such as splints and casts, are made to support injured limbs while they heal. Orthopedic technicians assist doctors in treating patients with arm and leg injuries. They make casts, traction devices, and splints according to doctors' instructions.

What They Do

Orthopedic technicians in the military perform some or all of the following duties:

- Make and apply plaster casts for broken arms and legs
- Construct splints for setting broken bones
- Assemble and adjust traction devices
- Prepare patients for orthopedic surgery
- Assist surgeons during surgery
- Remove casts

Physical Demands

Orthopedic technicians may have to lift and support patients for brief periods.

Helpful Attributes

Helpful attributes include:

- Interest in helping others
- Ability to follow instructions precisely
- Ability to work skillfully with the hands

Training Provided

Job training consists of 12 weeks of classroom instruction, including practice in making orthopedic devices. Course content typically includes:

- Study of the body and body systems
- Orthopedic terminology
- Plaster casting techniques
- Handling of orthopedic patients

Further training occurs on the job.

Work Environment

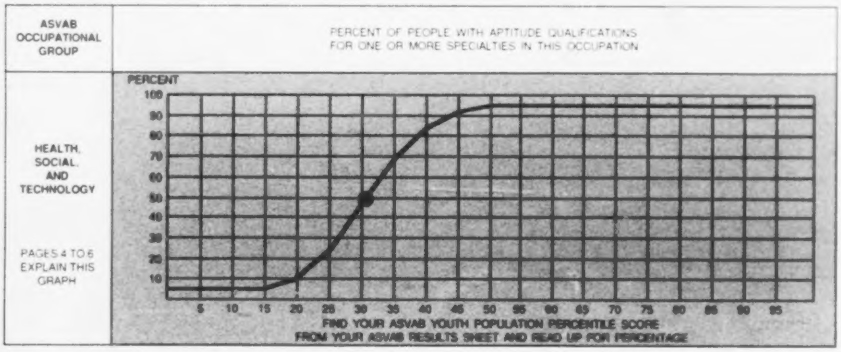
Orthopedic technicians normally work in hospitals and clinics on land or aboard ships. In combat situations, they may work in mobile field hospitals.

Civilian Counterparts

Civilian orthopedic technicians work in hospitals and clinics. Their work is similar to the work of military orthopedic technicians. They are also known as orthopedic physician assistants or orthopedic assistants.

Opportunities

The services have about 600 orthopedic technicians. On average, they need 60 new technicians each year. After job training, new technicians make splints and simple casts under close supervision. In time, they perform more difficult tasks and may supervise others. Eventually, they may help manage health care facilities.



ORTHOTIC SPECIALISTS

Army
Air Force

The military provides medical treatment to personnel disabled by injury or disease. Some disabilities require orthotic devices, which include spinal and limb braces and supports for weakened muscles. These devices must be tailored to each patient. Orthotic specialists make and repair braces and surgical supports for disabled patients. They work as part of medical teams that include physicians and therapists.

What They Do

Orthotic specialists in the military perform some or all of the following duties:

- Design orthotic devices as requested by physicians
- Make plaster casts for injured arms or legs
- Prepare blueprints for making the parts of braces and supports
- Operate lathes and grinders to make parts from plastic or steel
- Adjust devices to fit patients

Helpful Attributes

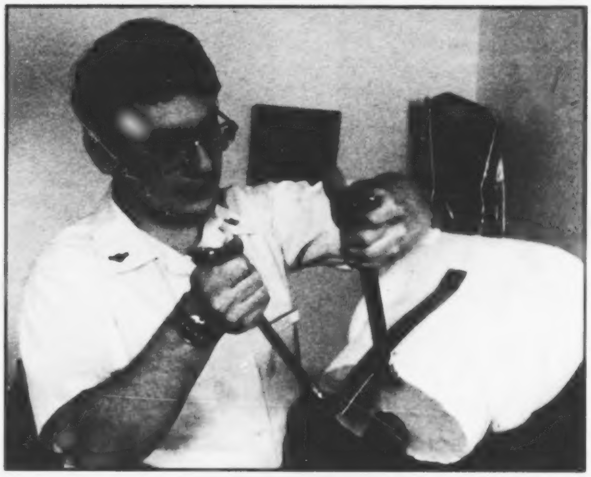
Helpful school subjects include biology, drafting, and shop mechanics. Helpful attributes include:

- Ability to use hand and power tools
- Interest in work requiring accuracy and attention to detail
- Sensitivity to understand the needs of others

Training Provided

Job training consists of between 50 and 52 weeks of classroom instruction. This includes practice in assembly of orthotic devices. Course content typically includes:

- Basic physiology and anatomy
- Blueprint reading
- Use of welding equipment
- Metal and plastic fabrication
- Construction of special shoes
- Adjustment and repair of braces



Work Environment

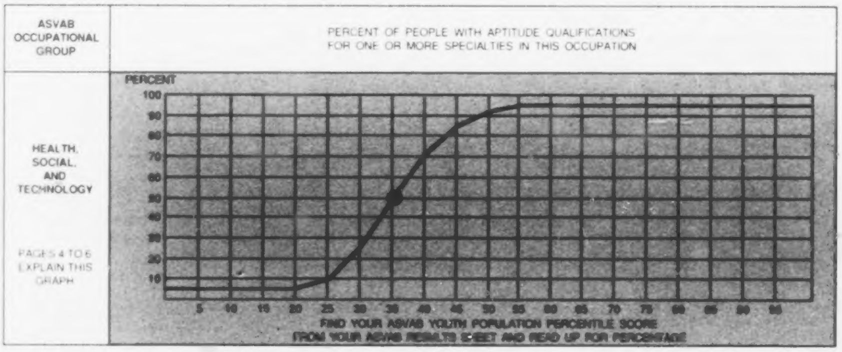
Orthotic specialists work in shops located in or near hospitals and clinics. They wear goggles, gloves, and special clothing when sanding, grinding, and welding.

Civilian Counterparts

Civilian orthotic specialists work in hospitals, rehabilitation centers, or private laboratories. They perform duties similar to those of military orthotic specialists. Civilian orthotic technicians often specialize. Those that fabricate parts using hand and power tools are called orthotic technicians. Those that make casts of body parts and repair or adjust orthotic devices are called orthotic assistants. Those that design orthotic devices and fit them to patients are called orthotists.

Opportunities

The services have about 140 orthotic specialists. On average, they need 15 new specialists each year. After job training, specialists make orthotic devices from instructions given by supervisors. With experience, they are given the responsibility of measuring patients and making plaster casts of body parts. In time, they may become capable of designing and fitting complicated orthotic devices. Eventually, they may supervise orthotics shops.



PHARMACY TECHNICIANS

Army
Navy
Air Force
Coast Guard

Prescription drugs and medicines are important to medical treatment. Patients and physicians depend on military pharmacies to fill their prescriptions accurately. Pharmacy technicians prepare and dispense prescribed drugs and medicines under the supervision of pharmacists or physicians. They also maintain pharmacy supplies and records.

What They Do

Pharmacy technicians in the military perform some or all of the following duties:

- Read doctors' prescriptions to determine the type and amount of drugs to prepare
- Weigh and measure drugs and chemicals
- Mix ingredients in order to produce prescription medications
- Prepare labels for prescriptions
- Dispense medications to patients
- Keep records of drugs used
- Store shipments of drugs and medications

Physical Demands

Ability to speak clearly is required. Some specialties may involve heavy lifting.

Work Environment

Pharmacy technicians usually work in hospitals and clinics on land or aboard ships. They may also work in field hospitals.

Helpful Attributes

Helpful school subjects include algebra, chemistry, biology, physiology, anatomy, and typing. Helpful attributes include:

- Interest in body chemistry
- Ability to work using precise measurements and standards
- Ability to follow strict procedures and directions

Training Provided

Job training consists of between 12 and 17 weeks of classroom instruction. Course content typically includes:

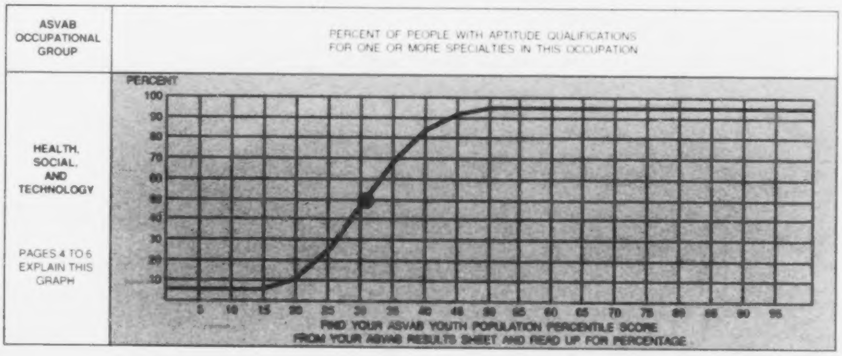
- Pharmacy laws and regulations
- Drug types and uses
- Mixing and dispensing drugs

Civilian Counterparts

Civilian pharmacy technicians work in pharmacies, drug stores, hospitals, and clinics under the direction of pharmacists. They are usually known as pharmacy helpers and generally do not have responsibility for the compounding and dispensing of drugs. They perform simple tasks, such as storing supplies, cleaning equipment, and delivering prescriptions. While military pharmacy technicians generally have more job responsibilities than civilian pharmacy helpers, they do not have the qualifications needed to become civilian pharmacists. Pharmacists must complete a college pharmacy degree program, pass a state board exam, and serve in a pharmacy internship.

Opportunities

The services have about 2,650 pharmacy technicians. On average, they need about 245 new technicians each year. After job training, new technicians work under the supervision of experienced pharmacy technicians and pharmacists. With experience, they work more independently. Eventually, they may supervise other technicians and may manage military pharmacies.



PHYSICAL THERAPY SPECIALISTS

Army
Navy
Air Force
Coast Guard

Physical therapy is a program of special treatments and exercises designed to rehabilitate patients disabled by illness or injury. Physical therapy is one of the medical benefits offered to all service personnel. Physical therapy specialists aid physical therapists in helping disabled patients regain strength and mobility.

What They Do

Physical therapy specialists in the military perform some or all of the following duties:

- Assist physical therapists in planning therapy programs for patients
- Give patients massages and heat treatments
- Help patients improve their mobility through special exercises
- Teach patients to use artificial limbs, braces, and other such devices
- Care for therapy equipment such as exercise machines and whirlpools
- Keep records and reports of patients' care and progress

Physical Demands

Physical therapy specialists may have to lift and support patients during exercise and treatment.

Helpful Attributes

Helpful school subjects include biology and physical science. Helpful attributes include:

- Interest in working with people
- Patience in working with people whose injuries heal slowly
- Ability to communicate ideas effectively

Work Environment

Physical therapy specialists work in hospitals, clinics, and rehabilitation centers.

Training Provided

Job training consists of between 11 and 28 weeks of classroom instruction, including practice in therapy methods. Training length varies depending on specialty. Course content typically includes:

- Theory and application of therapy procedures
- Handling and positioning of patients
- Principles of rehabilitation

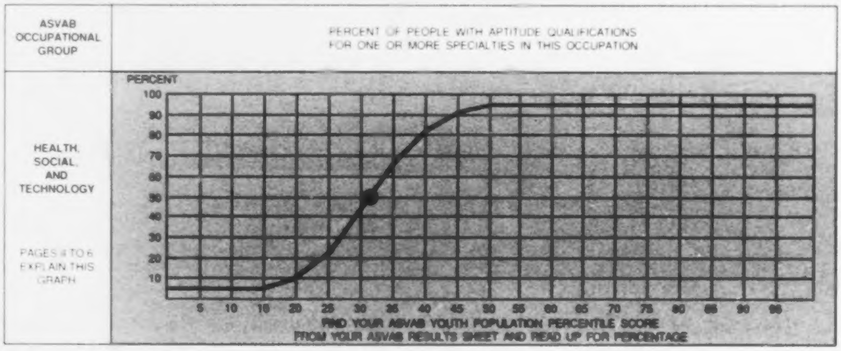
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian physical therapy specialists work for hospitals, nursing homes, and rehabilitation clinics. They perform duties similar to military physical therapy specialists. Civilian physical therapy specialists usually specialize in the type of patient they work with, such as children, the severely disabled, or the elderly.

Opportunities

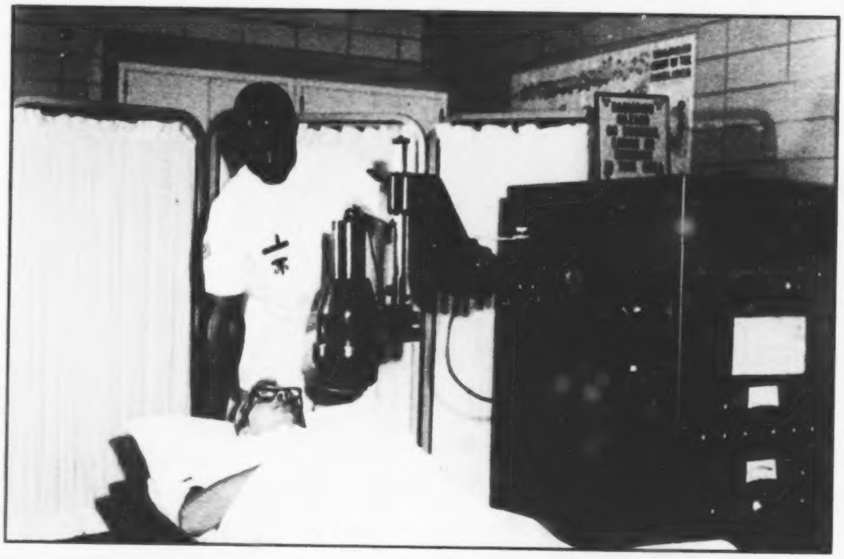
The services have about 720 physical therapy specialists. On average, they need about 75 new specialists each year. After job training, physical therapy specialists work under the direction of physical therapists or more experienced specialists. Physical therapy specialists may advance to supervisory positions, where they plan physical therapy programs and manage clinics.



RADIOLOGIC (X-RAY) TECHNICIANS

Army
Navy
Air Force
Coast Guard

Radiology (the use of X-rays) is a health care service provided to men and women in the military. X-ray photographs help doctors detect injuries and illnesses. Radiology is also used to treat some diseases, such as cancer. Radiologic technicians operate X-ray and related equipment used in diagnosing and treating injuries and diseases. They work as part of a medical team of doctors and specialists to provide health care to patients.



What They Do

Radiologic technicians in the military perform some or all of the following duties:

- Read requests or instructions from doctors to determine each patient's X-ray needs
- Position patients under radiologic equipment
- Adjust X-ray equipment to the correct time and power of exposure
- Process X-ray pictures
- Prepare and administer radioactive solutions to patients
- Keep records of patient treatment

Work Environment

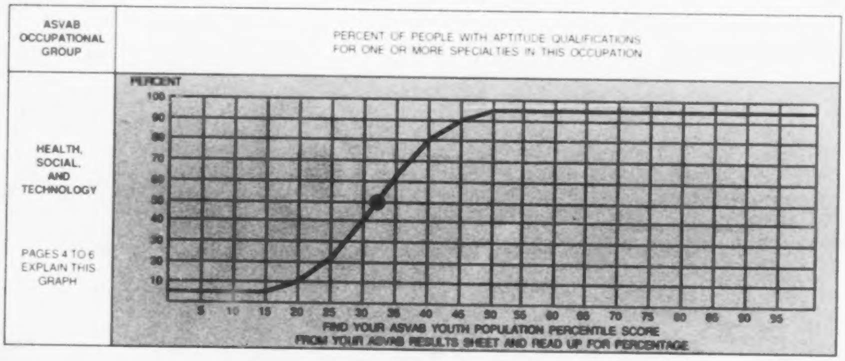
Radiologic technicians work in hospitals and clinics. In combat situations, they may work in mobile field hospitals. They follow strict safety procedures to minimize exposure to radiation.

Training Provided

Job training consists of between 12 and 19 weeks of classroom instruction, including practice with radiologic equipment. Extensive on-the-job training is also provided. Training length varies depending on specialty. Course content typically includes:

- Operation of X-ray equipment
- Radioactive isotope therapy
- X-ray film processing
- Anatomy and physiology

Additional training occurs through advanced courses.



Helpful Attributes

Helpful school subjects include algebra, biology, and other science courses. Helpful attributes include:

- Interest in activities requiring accuracy and attention to detail
- Ability to follow strict standards and procedures
- Interest in helping others

Civilian Counterparts

Civilian radiologic technicians work in hospitals, diagnostic clinics, and medical laboratories. They perform duties similar to military radiologic technicians. They may specialize in various areas of radiology and may be called X-ray technologists or nuclear medical technologists.

Opportunities

The military has about 3,500 radiologic technicians. On average, the services need about 350 new technicians each year. After job training, technicians start taking routine X-rays. With experience, they may specialize in nuclear medicine and administer radiation and radioisotopic treatment and therapy. In time, they may advance to become supervisors of radiologic units.

RESPIRATORY THERAPISTS

Army
Navy
Air Force

Asthma and emphysema (lung disease) patients suffer from breathing difficulties. Victims of heart failure, stroke, or near drowning may also have long-term breathing problems. Respiratory therapy is provided to patients with breathing problems. Respiratory therapists help patients regain breathing functions through therapy, exercise, and medication.

What They Do

Respiratory therapists in the military perform some or all of the following duties:

- Assist in reviving patients who are no longer breathing or whose hearts have stopped
- Operate and monitor respiratory therapy equipment during treatment
- Observe and record patient response to respiratory therapy
- Clean, sterilize, and maintain respiratory therapy equipment
- Instruct patients in breathing exercises to help clear lungs of fluids
- Instruct patients on how to operate home respiratory therapy equipment

Physical Demands

Respiratory therapists may have to lift and position patients for treatment.

Helpful Attributes

Helpful school subjects include general science, chemistry, and biology. Helpful attributes include:

- Ability to deal with stressful situations
- Ability to respond quickly to emergencies
- Interest in helping others

Work Environment

Respiratory therapists usually work in hospitals or clinics. In combat situations, they may work in mobile field hospitals.

Training Provided

Job training consists of between 32 and 41 weeks of classroom instruction, including practice in providing respiratory therapy. Course content typically includes:

- Procedures for operating respiratory therapy equipment
- Methods for providing emergency care
- Techniques of respiratory therapy

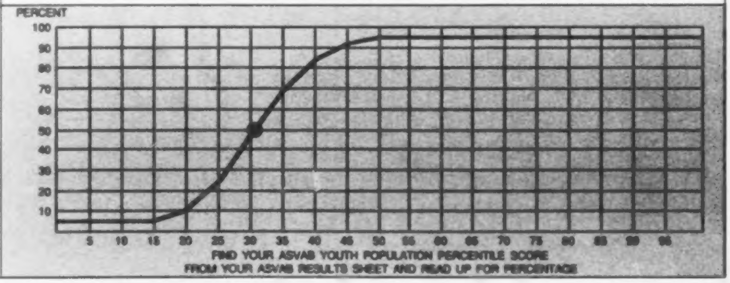
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian respiratory therapists work in hospitals and clinics and for ambulance services. Their duties are similar to those of military respiratory therapists. Civilian respiratory therapists may be called inhalation therapists or pulmonary therapists.

Opportunities

The military has about 310 respiratory therapists. On average, the services need about 30 new therapists each year. After job training, therapists provide treatment under the direction of a supervisor. With experience, they advance from caring for patients with minor respiratory problems to caring for patients with more serious problems. They may also supervise and direct the work of other respiratory therapists.

ASVAB OCCUPATIONAL GROUP	PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION
HEALTH, SOCIAL, AND TECHNOLOGY PAGES 4 TO 6 EXPLAIN THIS GRAPH	

Engineering, Science, and Technical Occupations

- Air Traffic Controllers
- Broadcast and Recording Technicians
- Computer Programmers
- Computer Systems Analysts
- Drafters
- Emergency Management Specialists
- Environmental Health Specialists
- Fuel and Chemical Laboratory Technicians
- Intelligence Specialists
- Legal Technicians
- Mapping Technicians
- Non-Destructive Testers
- Radar and Sonar Operators
- Radio Intelligence Operators
- Radio Operators
- Space Systems Specialists
- Surveying Technicians
- Weather Observers

AIR TRAFFIC CONTROLLERS

Army
Navy
Air Force
Marine Corps

Every day, hundreds of military airplanes and helicopters take off and land all over the world. Their movements are closely controlled in order to prevent accidents. Air traffic controllers direct the movement of aircraft into and out of military airfields. They track aircraft by radar and give voice instructions by radio.

What They Do

Air traffic controllers in the military perform some or all of the following duties:

- Operate radio equipment to issue takeoff, flight, and landing instructions to pilots
- Relay weather reports, airfield conditions, and safety information to pilots
- Use radar equipment to track aircraft in flight
- Plot airplane locations on charts and maps
- Compute speed, direction, and altitude of aircraft
- Maintain air traffic control records and communication logs

Physical Demands

Normal hearing and a clear speaking voice are required to enter this occupation. Controllers must pass a special physical exam.

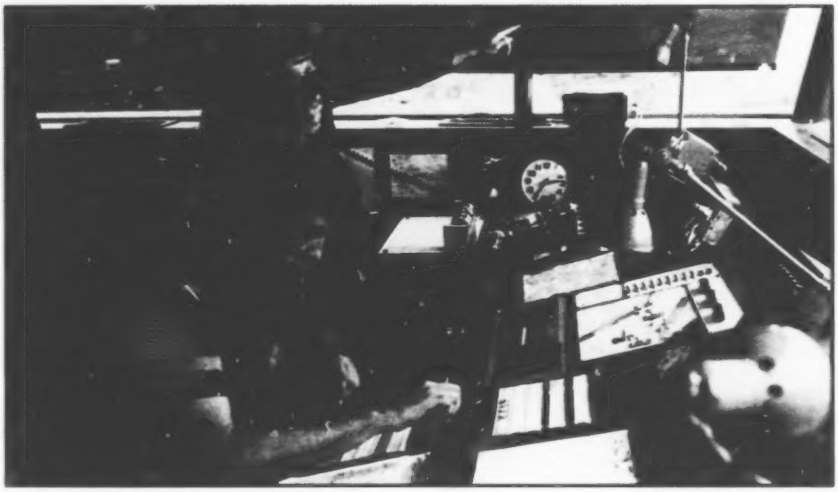
Helpful Attributes

Helpful school subjects include English, general mathematics, and typing. Helpful attributes include:

- Ability to work under stress
- Skill in math computation
- Ability to make quick, decisive judgments
- Ability to remain alert while performing repetitive tasks

Work Environment

Air traffic controllers work in land-based and shipboard control centers.



Training Provided

Job training consists of between 7 and 13 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Air traffic control fundamentals
- Visual and instrument flight procedures
- Radar and other landing approach procedures
- Communication procedures

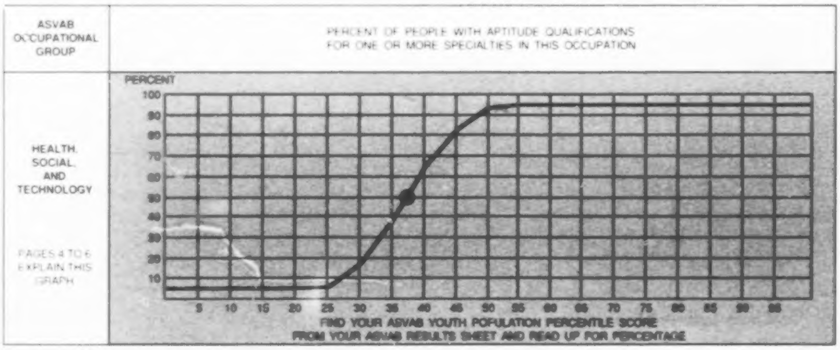
Additional training occurs on the job. Aircraft carrier air traffic controllers receive specialized training.

Civilian Counterparts

Civilian air traffic controllers work for the Federal Aviation Administration (FAA) in airports and control centers around the country. They perform duties similar to military air traffic controllers. They may specialize in specific areas, such as aircraft arrival, departure, ground control, or en route flights.

Opportunities

The services have about 11,820 air traffic controllers. On average, they need 1,200 new controllers each year. After job training, new controllers normally perform duties such as ground control or work in airfields with light air traffic. With experience, they perform more difficult controller duties. In time, they may become supervisors of other controllers.



BROADCAST AND RECORDING TECHNICIANS

Army
Navy
Air Force
Marine Corps

Every day, the military produces radio and television programs for broadcast within the U.S. and overseas. The services also produce films for training and publicity. Audio (sound) equipment is used to record live programs and create lifelike soundtracks for productions. Broadcast and recording technicians operate audio recording devices and broadcast equipment.

What They Do

Broadcast and recording technicians in the military perform some or all of the following duties:

- Set up and adjust microphones and tape recorders
- Monitor the level and quality of sound during broadcasts
- Record sound effects and background music for film, radio, and television
- Operate sound mixing boards to control the sound levels from several microphones
- Set up and operate public address systems

Helpful Attributes

Helpful school subjects include audiovisual communications, drama, speech, and photography. Helpful attributes include:

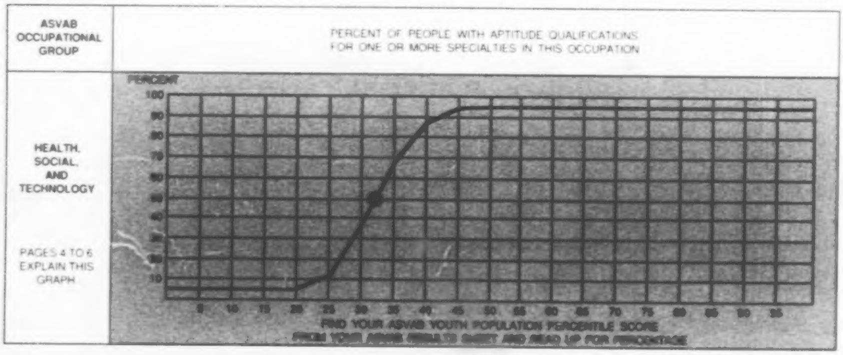
- Interest in working with audiovisual equipment
- Ability to work well as a member of a team

Training Provided

Job training consists of between 9 and 52 weeks of instruction, including practice in operating audio equipment. Training length varies depending on specialty. Course content typically includes:

- Techniques for recording motion picture soundtracks
- Radio and television broadcasting
- Maintenance of public address sound equipment

Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program for one specialty in this occupation.



Work Environment

Broadcast and recording technicians work indoors, in recording and broadcasting studios, and outdoors when recording or broadcasting in the field.

Civilian Counterparts

Civilian broadcast and recording technicians work for television and radio studios, motion picture studios, and other media centers. Their work is similar to work in the military. Civilian technicians tend to specialize in particular fields, such as radio, television, motion pictures, or advertising. They may be called sound mixers, recording engineers, or sound cutters.

Opportunities

The services have about 750 broadcast and recording technicians. On average, they need about 80 new technicians each year. After job training, new technicians operate broadcasting and recording equipment under close supervision. With experience, they work more independently and, in time, may direct audiovisual productions.

COMPUTER PROGRAMMERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military is one of the largest users of data processing equipment in the world. Information about communications, personnel, finance, and supply is kept in its many high-speed computers. This information is important for planning and management. Computer programmers plan and prepare instructions, called programs, which command computers to solve problems and organize data.

What They Do

Computer programmers in the military perform some or all of the following duties:

- Organize and arrange computer programs into logical steps which direct computers to solve problems
- Draw diagrams and charts illustrating the steps in programs
- Code programs into languages that computers can read, such as COBOL, FORTRAN, or BASIC
- Test or debug computer programs to see that the desired information is produced
- Prepare detailed instruction sheets for computer operators who run programs
- Review and update old programs as new information is received or changes are needed

Training Provided

Job training consists of between 10 and 13 weeks of classroom instruction, including practice in program coding. Course content typically includes:

- Program structuring, coding, and debugging
- Analysis and design of computer systems
- Preparation of block diagrams, flow charts, and program codes
- FORTRAN, COBOL, and other computer languages

Further training occurs on the job and through advanced courses in specific computer systems and languages.

Helpful Attributes

Helpful school subjects include math, business administration, and computer science. Helpful attributes include:

- Ability to understand math concepts
- Interest in solving problems using rules of logic
- Interest in computers

Civilian Counterparts

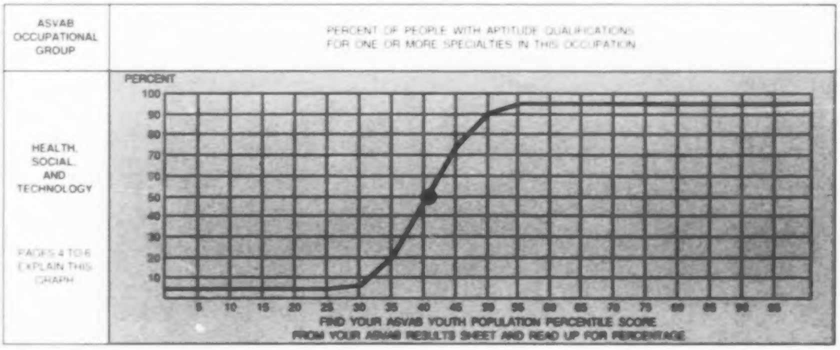
Civilian computer programmers work for such organizations as manufacturing firms, banks, data processing organizations, government agencies, and insurance companies. These employers handle large amounts of information that programmers help organize for convenient use. Civilian computer programmers perform duties similar to those in the military.

Work Environment

Computer programmers normally work in office settings. Some work aboard ships, in missile facilities, or in space command centers.

Opportunities

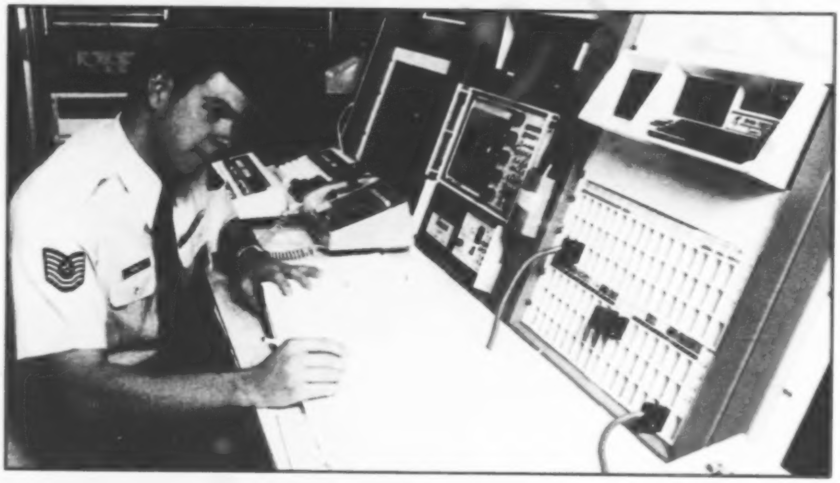
The military has about 4,990 computer programmers. On average, the services need about 510 new programmers each year. After job training, programmers are assigned to data processing units. Programmers may work alone or with systems analysts and computer operators. With experience, programmers may advance to supervisory positions, such as programming chiefs. Some programmers become computer systems analysts after several years of programming experience and further training.



COMPUTER SYSTEMS ANALYSTS

Army
Navy
Air Force
Marine Corps

Setting up large computer systems requires careful planning. Decisions must be made concerning what information will go into the computer, how it will be processed, and, most importantly, what the system will produce. Computer systems analysts plan and design systems. They also design software programs that permit information to be entered into the computer, stored, processed, and retrieved in a way that meets the military's needs.



What They Do

Computer systems analysts in the military perform some or all of the following duties:

- Help military units determine their data processing needs
- Develop systems plans, including input, output, and processing steps, and information storage and access methods
- Develop flow charts, documentation, and block diagrams of systems for use by programmers
- Help programmers program, test, and debug computer software
- Make systems secure from unofficial access

Work Environment

Computer systems analysts usually work in offices.

Training Provided

Job training consists of between 10 and 18 weeks of instruction. Training length depends upon specialty. Course content typically includes:

- Planning and designing data processing systems
- Methods of flow charting and documenting systems
- Systems testing and evaluation

Additional training occurs on the job and through advanced courses.

Helpful Attributes

Helpful school subjects include geometry, algebra, and computer science. Helpful attributes include:

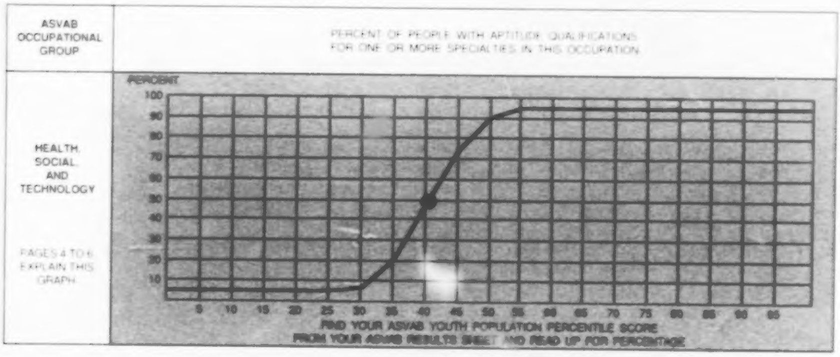
- Ability to solve abstract problems
- Ability to communicate effectively
- Preference for work requiring attention to detail

Civilian Counterparts

Civilians in this field work for a wide variety of employers, such as banks, insurance companies, hospitals, large retailers, research firms, manufacturers, and government agencies. Their work is similar to work in the military. They are called programmer/analysts, systems analysts, and systems programmers. Most civilian computer systems analyst jobs require a 4-year college degree.

Opportunities

The services have about 2,110 computer systems analysts. On average, they need about 220 new systems analysts each year. After job training, new analysts work under the direction of experienced analysts. They may work alone on individual projects, but usually they work with other analysts and programmers as part of a team. With experience, they may become managers of computer facilities.



DRAFTERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military builds and repairs many airstrips, barracks, roads, and other projects each year. Construction crews need plans to identify the locations, designs, and materials to be used during construction. Drafters prepare detailed plans and drawings for construction projects.

What They Do

Drafters in the military perform some or all of the following duties:

- Make scale drawings of roads, airfields, buildings, and other military projects from engineers' instructions and sketches
- Draw diagrams for wiring and plumbing
- Identify concrete, lumber, and other materials needed to construct projects
- Compute the cost of materials
- Work with engineers and construction supervisors to change drawings when needed

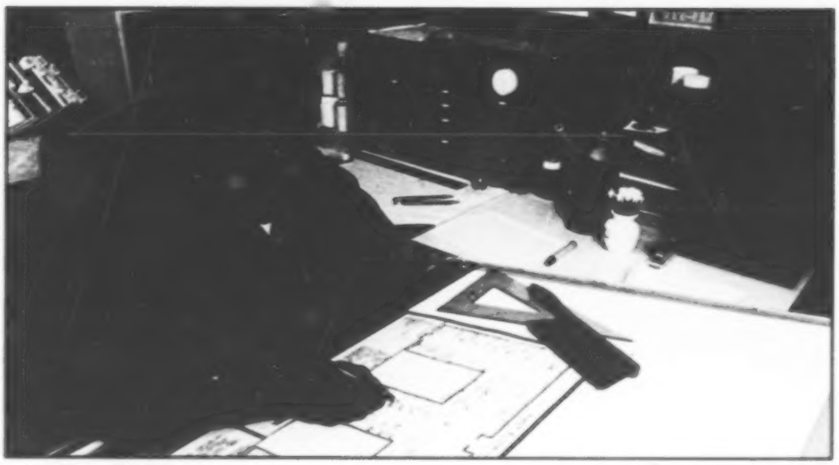
Special Qualifications

Courses in algebra and geometry are required to enter some specialties in this occupation.

Helpful Attributes

Helpful high school subjects include drafting, algebra, and geometry. Helpful attributes include:

- Interest in working with drafting equipment
- Ability to print and draw neatly
- Ability to convert ideas into drawings



Work Environment

Drafters in the military usually work in office settings. At times, they work outdoors at construction sites.

Training Provided

Job training consists of between 10 and 11 weeks of classroom instruction. Course content typically includes:

- Site plan drafting techniques
- Preparation of briefing charts
- Architectural and structural drawing
- Elevation and building details

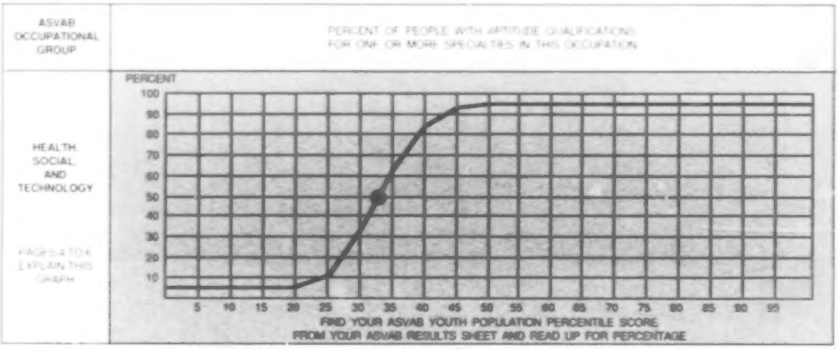
Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian drafters usually work for architectural or engineering firms, government agencies, mining firms, and manufacturing industries. Civilian drafters perform duties similar to military drafters. They usually specialize in a particular type of drafting, such as mechanical, electrical, aeronautical, structural, or architectural drafting.

Opportunities

The military has about 950 drafters. On average, the services need about 160 new drafters each year. After job training, drafters usually make simple drawings and material estimates under supervision. With experience, they may supervise other drafters and lead planning work on a project. In time, they may become chief drafters or supervisors of construction units.



EMERGENCY MANAGEMENT SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military prepares for emergencies or natural disasters by developing detailed warning, control, and evacuation plans. Emergency management specialists prepare emergency plans and procedures for all types of disasters, such as floods, earthquakes, hurricanes, or enemy attack.

What They Do

Emergency management specialists in the military perform some or all of the following duties:

- Assist in preparing and maintaining disaster operations plans
- Train military and civilian personnel on what to do in an emergency
- Operate and maintain nuclear, biological, and chemical detection and decontamination equipment
- Conduct surveys to determine needs in the event of an emergency
- Monitor disaster preparedness activities and training operations

Helpful Attributes

Helpful school subjects include algebra, chemistry, physics, geometry, and trigonometry. Helpful attributes include:

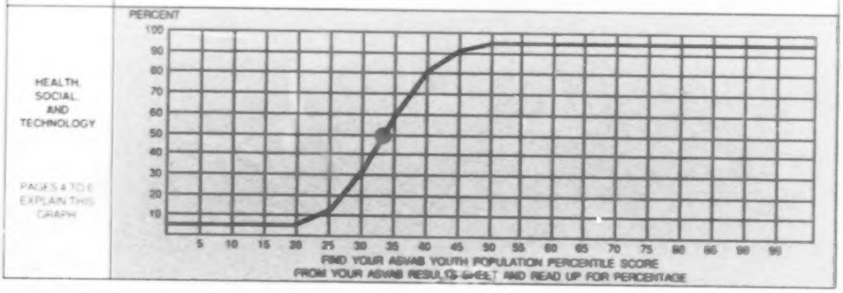
- Ability to communicate effectively
- Ability to plan and organize
- Ability to work calmly under stress

Training Provided

Job training consists of between 8 and 10 weeks of classroom instruction, including practice in the use of nuclear, biological, and chemical detection and decontamination equipment. Course content typically includes:

- Defensive procedures for nuclear, biological, and chemical warfare
- Preparation of emergency plans

Further training occurs on the job and through advanced courses.



Work Environment

Emergency management specialists work indoors when conducting training sessions and preparing disaster plans. Sometimes they work outdoors while operating decontamination equipment and monitoring disaster training.

Civilian Counterparts

Civilian emergency management specialists work for federal, state, and local governments, including law enforcement and civil defense agencies. They perform duties similar to military emergency management specialists.

Opportunities

The services have about 2,320 emergency management specialists. On average, they need 140 new specialists each year. After job training, some prepare emergency plans under close supervision. With experience, they work more independently and assist in surveys and inspections. Other specialists conduct inspections and operate decontamination equipment. Eventually, they may become supervisors of emergency management programs.

ENVIRONMENTAL HEALTH SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each military base is a small community. The health and well being of the residents is a major concern of the services. Keeping military work places and living areas sanitary helps to prevent illness. Environmental health specialists inspect military facilities and food supplies for the presence of disease, germs, or other conditions hazardous to health.

What They Do

Environmental health specialists in the military perform some or all of the following duties:

- Inspect food service, storage, and dining facilities
- Inspect foods for quality and freshness
- Inspect water and waste disposal facilities
- Conduct health and sanitation surveys of living quarters and buildings
- Plan the disposal of radioactive and toxic wastes
- Prepare health inspection reports
- Give hearing exams and monitor noise levels at job sites

Helpful Attributes

Helpful school subjects include algebra, biology, chemistry, and general science. Helpful attributes include:

- Interest in gathering information
- Preference for work requiring attention to detail
- Interest in protecting the environment

Work Environment

Environmental health specialists work indoors while inspecting food facilities and buildings. They work outdoors while inspecting waste disposal facilities and field camps.

Training Provided

Job training consists of between 11 and 19 weeks of classroom instruction, including practice in making health and sanitation inspections. Training length varies depending on specialty. Course content typically includes:

- Identification of health hazards
- Inspection of food products and food service operations
- Inspection of wastewater and waste disposal facilities

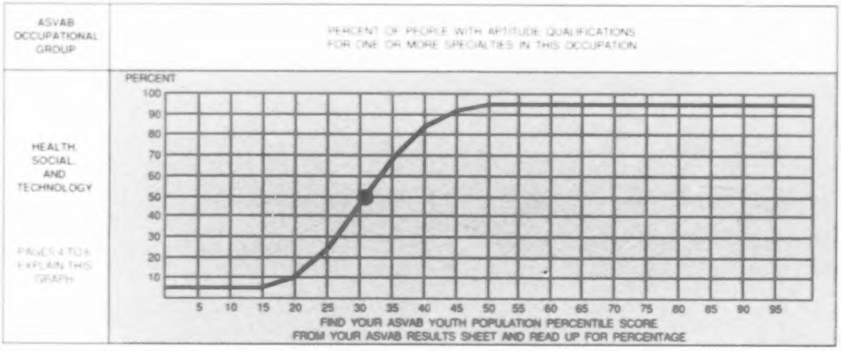
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Most civilian environmental health specialists work for local, state, and federal government agencies. Their duties are similar to the duties of military environmental health specialists. They may be called food and drug inspectors or public health inspectors.

Opportunities

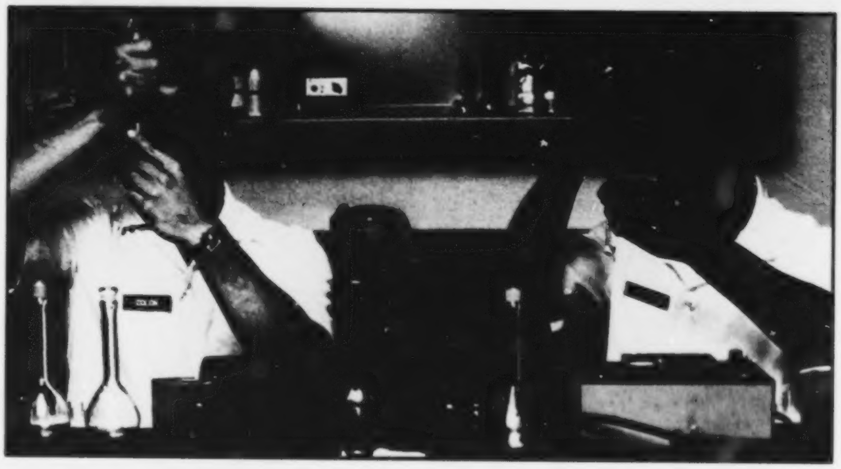
The services have about 4,290 environmental health specialists. On average, they need about 470 new specialists each year. After job training, environmental health specialists help to make inspections. With experience, they work more independently and may supervise other environmental health specialists. Eventually, they may become superintendents of environmental health programs at large military bases.



FUEL AND CHEMICAL LABORATORY TECHNICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

Fuels and oils must be free of water and other contaminants to be safely used in aircraft or vehicles. The same is true for chemicals and other materials used by the military. Fuel and chemical laboratory technicians test fuels, oils, chemicals, and other materials for quality, purity, and durability.



What They Do

Laboratory technicians in the military perform some or all of the following duties:

- Obtain petroleum test samples from storage tanks, barges, and tankers
- Test fuels and oils for water, sediment, and other contaminants using laboratory equipment
- Analyze chemicals for strength, purity, and toxic qualities
- Perform chemical and physical tests on clothing, food, paints, and plastics
- Keep detailed laboratory records and files

Physical Demands

Some specialties may require moderate to heavy lifting.

Work Environment

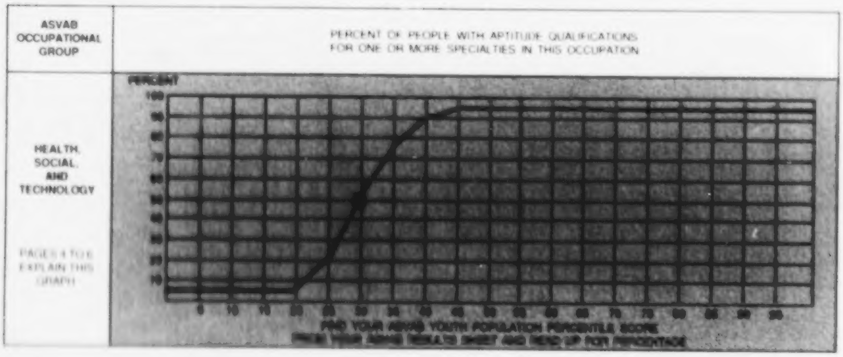
Fuel and chemical laboratory technicians work in laboratories on military bases and aboard ships.

Training Provided

Job training consists of between 2 and 13 weeks of instruction, including practice in testing different products. Training length varies depending on specialty. Course content typically includes:

- Testing methods
- Use of lab equipment, such as centrifuges and spectrometers
- Physical and chemical properties of fuel, oils, and other products

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer a certified apprenticeship for one specialty in this occupation.



Helpful Attributes

Helpful school subjects include chemistry and mathematics. Helpful attributes include:

- Interest in performing technical work
- Interest in working with chemicals and lab equipment
- Ability to follow detailed procedures

Civilian Counterparts

Civilian laboratory technicians work for petroleum refineries, chemical companies, manufacturing firms, and government agencies. They perform duties similar to military laboratory technicians. Civilian laboratory technicians specialize in particular industries, such as petroleum, food processing, or medical drugs. They also may be called chemical laboratory technicians or laboratory testers.

Opportunities

The services have about 4,480 fuel and chemical laboratory technicians. On average, they need about 640 new laboratory technicians each year. After job training, laboratory technicians work in testing laboratories under close supervision. With experience, they work more independently and perform more complex analyses. In time, laboratory technicians may supervise or manage test laboratories.

INTELLIGENCE SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military intelligence is information needed to plan for our national defense. Knowledge of the number, location, and tactics of enemy forces and potential battle areas is needed to develop military plans. To gather information, the services rely on aerial photographs, electronic monitoring using radar and sensitive radios, and human observation. Intelligence specialists gather and study the information required to design defense plans and tactics.

What They Do

Intelligence specialists in the military perform some or all of the following duties:

- Study aerial photographs of foreign ships, bases, and missile sites
- Study foreign troop movements
- Operate sensitive radios to intercept foreign military communications
- Study land and sea areas that could become battlegrounds in time of war
- Store and retrieve intelligence data using computers
- Study foreign military codes
- Prepare intelligence reports, maps, and charts

Training Provided

Job training consists of between 9 and 24 weeks of classroom instruction, including practice in intelligence gathering. Training length varies depending on specialty. Course content typically includes:

- Planning aerial and satellite observations
- Preparing maps and charts
- Analyzing aerial photographs
- Preparing intelligence reports
- Using computer systems

Further training occurs on the job and through advanced courses.

Work Environment

Intelligence specialists work in offices on land and aboard ships and in tents when in the field.

Helpful Attributes

Helpful school subjects include typing, algebra, geometry, trigonometry, and geography. Helpful attributes include:

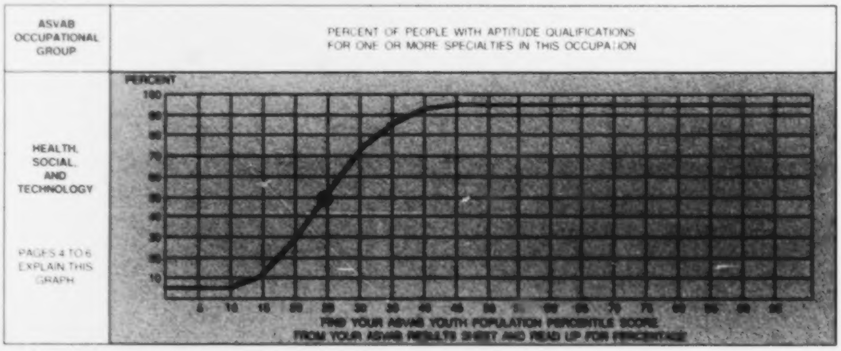
- Interest in reading maps, charts, and aerial photographs
- Interest in gathering information and studying its meaning
- Ability to think and write clearly

Civilian Counterparts

Civilian intelligence specialists generally work for federal government agencies such as the Central Intelligence Agency (CIA) or the National Security Agency (NSA). Their duties are similar to those performed by military intelligence specialists. The analytical skills of intelligence specialists are also useful in other fields, such as research or business planning.

Opportunities

The services have about 14,070 intelligence specialists. On average, they need about 1,510 new specialists each year. After job training, intelligence specialists collect information and prepare maps and charts under close supervision. With experience, they are given more responsibility for organizing and studying intelligence data. Eventually, they may become chiefs of intelligence units.



LEGAL TECHNICIANS

Army
Navy
Air Force
Marine Corps

The military has its own judicial system for prosecuting lawbreakers and handling disputes. Legal technicians assist military lawyers and judges in the performance of legal and judicial work. They perform legal research and prepare legal documents needed for military courts.

What They Do

Legal technicians in the military perform some or all of the following duties:

- Research court decisions and military regulations
- Process legal claims, appeals, and summonses to appear in court
- Interview clients and take statements
- Prepare trial requests and make arrangements for courtrooms
- Maintain law libraries and trial case files
- Type claims, trial reports, pretrial agreements, and other legal documents
- Prepare military punishment and discharge orders

Physical Demands

A clear speaking ability is necessary to interview clients.

Special Qualifications

Some specialties require the ability to type at a rate of 30-50 words per minute.

Work Environment

Legal technicians work in military law offices.

Training Provided

Job training consists of between 6 and 8 weeks of instruction. Course content typically includes:

- Legal terminology
- Legal research techniques
- How to prepare case files, appeals, and other legal documents
- How to conduct military investigations

Helpful Attributes

Helpful school subjects include business mathematics, typing, speech, and shorthand. Helpful attributes include:

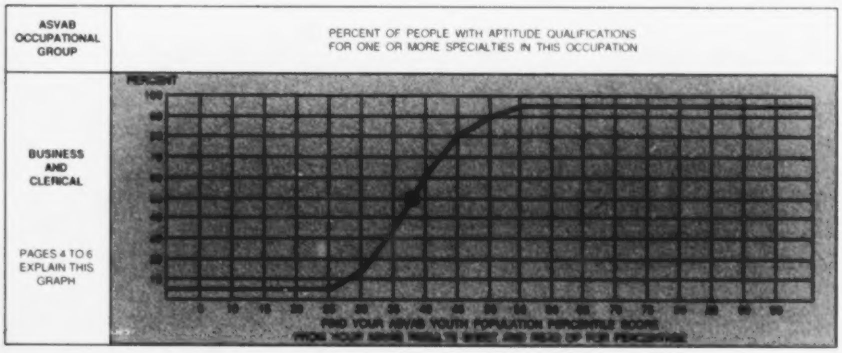
- Interest in office work
- Ability to use library card catalogs
- Interest in the law

Civilian Counterparts

Civilian legal technicians work for private law firms, banks, insurance companies, manufacturing firms, and government agencies. They perform duties similar to military legal technicians. Civilian legal technicians may also be called legal assistants, paralegal assistants, or legal clerks.

Opportunities

The services have about 2,800 legal technicians. On average, they need about 260 new technicians each year. After training, legal technicians are assigned to an attorney, usually called a Legal Officer or Judge Advocate. They work under the close supervision of experienced legal technicians. With experience, legal technicians perform more demanding paralegal activities. In time, they may become supervisors of other legal technicians.



MAPPING TECHNICIANS

Army
Navy
Air Force
Marine Corps

The military uses maps to locate military targets and plot troop movements. It also uses maps to plan construction of airfields, roads, and docks. Mapping technicians make maps showing natural and man-made features such as hills, rivers, roads, and buildings.

What They Do

Mapping technicians in the military perform some or all of the following duties:

- Draw maps and charts using drafting tools such as easels, templates, and compasses
- Understand and use survey measurements
- Draw land elevations, distances between points, and locations of landmarks on maps
- Build scale models of land areas out of wood, clay, and paper that show hills, lakes, roads, and buildings
- Piece together aerial photographs of airfields, harbors, and other military sites to form large photomaps
- Draw maps of military sites using photographs taken from high altitude aircraft or satellites
- Record military troop and ship movements on maps or models for intelligence purposes

Physical Demands

Good depth perception is required to study aerial photos through stereoscopes.

Training Provided

Job training consists of between 9 and 14 weeks of classroom instruction, depending on specialty. Course content typically includes:

- Principles of mapmaking
- Interpretation of land surveys
- Use of mathematical formulas
- Aerial photo interpretation

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs for some specialties in this occupation.

Helpful Attributes

Helpful school subjects include drafting, drawing, and geometry. Helpful attributes include:

- Ability to visualize land features
- Ability to convert ideas into working drawings
- Interest in maps and charts

Work Environment

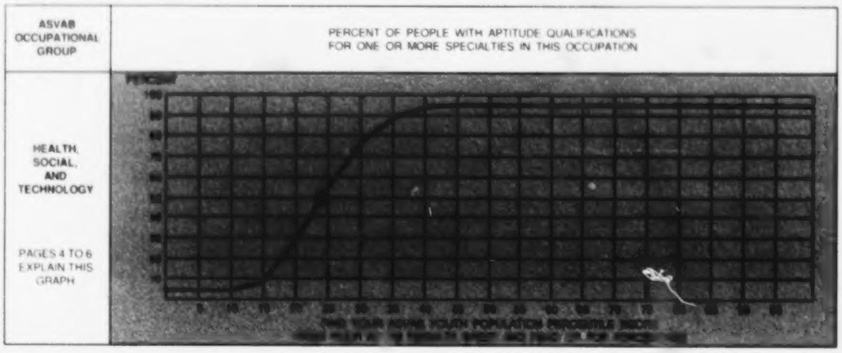
Mapping technicians usually work indoors. Those assigned to engineering units sometimes work outdoors with survey teams. Those assigned to intelligence units may work on ships as well as on land.

Civilian Counterparts

Civilian mapping technicians work for engineering firms, mapmaking companies, and government agencies such as the highway department. Their work is used for planning construction projects such as highways, airport runways, dams, and drainage systems. Mapmakers are also called cartographers, cartographic technicians, and photogrammetrists.

Opportunities

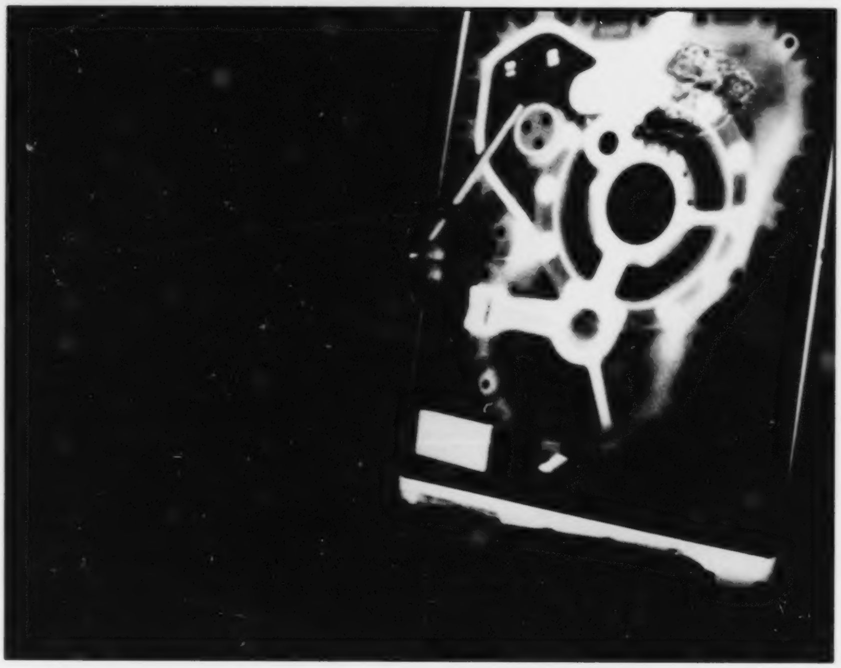
The military has about 2,340 mapping technicians. On average, the services need about 310 new mapping technicians each year. After job training, mapping technicians trace photos and help make maps under close supervision. With experience, they work more independently. Eventually, they may supervise mapmaking laboratories or intelligence units.



NON-DESTRUCTIVE TESTERS

Navy
Air Force
Marine Corps

Military equipment is often placed under heavy stress. An airplane's landing gear absorbs heavy runway impact. Submarine hulls withstand tremendous pressure in the ocean depths. In time, stress may cause structural weakening or damage. Non-destructive testers examine metal parts for stress damage. They use X-rays, ultrasonics, and other testing methods that do not damage (are non-destructive of) the parts tested.



What They Do

Non-destructive testers in the military perform some or all of the following duties:

- Inspect metal parts and joints for wear and damage
- Take X-rays of aircraft and ship parts
- Examine X-ray film to detect cracks and flaws in metal parts and welds
- Operate ultrasonic, atomic absorption, and other kinds of test equipment
- Conduct oil analysis and heat damage tests to detect engine wear
- Prepare inspection reports

Helpful Attributes

Helpful school subjects include math and metal shop. Helpful attributes include:

- Thoroughness and dependability
- Interest in operating test equipment
- Interest in machines and how they work

Training Provided

Job training consists of between 9 and 13 weeks of classroom instruction, including practice in testing metal parts. Course content typically includes:

- Methods for inspecting parts and welds
- Operation of X-ray and film processing equipment
- Operation of ultrasonic test equipment
- Preparation of test reports

Work Environment

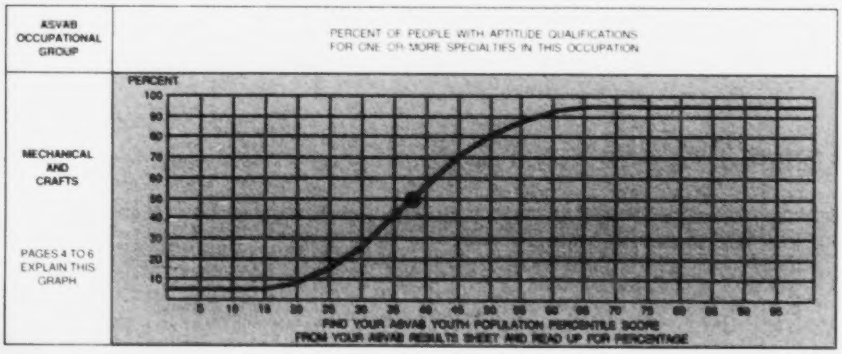
Non-destructive testers work indoors in laboratories and aircraft hangers. They also work outdoors in shipyards and in the field.

Civilian Counterparts

Civilian non-destructive testers work for commercial testing laboratories, airlines, aircraft maintenance companies, and industrial plants. They perform duties similar to military non-destructive testers and may be called radiographers.

Opportunities

The military has about 1,410 non-destructive testers. On average, the services need about 110 new testers each year. After job training, testers are assigned to testing units, where they perform tests under supervision. With experience, they work more independently. In time, non-destructive testers may become supervisors of testing laboratories or maintenance units.



RADAR AND SONAR OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Radar and sonar devices work by bouncing radio or sound waves off objects to measure their location and distance. They have many uses, such as tracking aircraft and missiles, determining positions of ships and submarines, directing artillery fire, forecasting weather, and aiding navigation. Radar and sonar operators monitor sophisticated radar and sonar equipment. They normally specialize in either radar or sonar.

What They Do

Radar and sonar operators in the military perform some or all of the following duties:

- Detect and track position, direction, and speed of aircraft, ships, submarines, and missiles
- Plot and record data on status charts and plotting boards
- Set up and operate radar equipment to direct artillery fire
- Monitor early warning air defense systems
- Send and receive messages using radios and electronic communication systems

Physical Demands

Specialties involving flying require passing a special physical exam.

Training Provided

Job training consists of between 7 and 12 weeks of classroom instruction and practice operating radar or sonar equipment. Training length varies by specialty. Course content typically includes:

- Operation and maintenance of various types of radar and sonar equipment
- Identification of ships, submarines, aircraft, and missiles
- Computation and recording of aircraft or missile speed, direction, and altitude

Further training occurs on the job and through advanced courses.

Special Qualifications

Although there are women radar and sonar operators, some specialties in this occupation are not open to women.

Work Environment

Radar and sonar operators in the military primarily work indoors in security controlled areas. They work in operations centers and command posts either on land or aboard aircraft, ships, or submarines. Some may work in a mobile field radar unit.

Civilian Counterparts

There are no direct civilian counterparts to military radar and sonar operators. However, workers in civilian occupations that use radar and sonar equipment in their jobs include weather service technicians, air traffic controllers, ship navigators, and ocean salvage specialists.

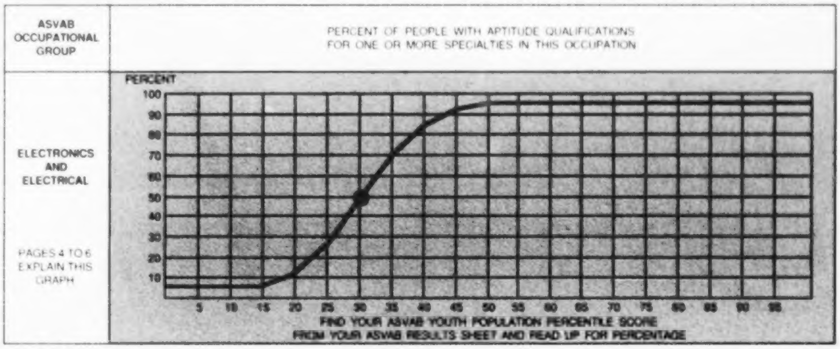
Helpful Attributes

Helpful school subjects include geometry, algebra, and science. Helpful attributes include:

- Ability to concentrate for long periods
- Interest in working with electronic equipment

Opportunities

The services have about 18,520 radar and sonar operators. On average, they need about 1,900 new operators each year. After job training, new operators operate radar or sonar equipment under close supervision. With experience, they work more independently and may eventually become supervisors of ground, airborne, or shipboard radar or sonar units.



RADIO INTELLIGENCE OPERATORS

Army
Navy
Air Force
Marine Corps

Knowing about the military forces of foreign governments helps our military plan the nation's defense. One way of learning about foreign military forces is to listen to their radio transmissions. Troop locations, battle tactics, and other secrets can be learned from listening to foreign military units sending messages to one another. Radio intelligence operators intercept, identify, and record foreign radio transmissions.

What They Do

Radio intelligence operators in the military perform some or all of the following duties:

- Record radio signals coming from foreign ships, planes, and land forces
- Study radio signals to understand the tactics used by foreign military forces
- Tune radios to certain frequencies and adjust for clear reception
- Locate the source of foreign radio signals using electronic direction-finding equipment
- Translate morse code signals into words and type them for review by superiors
- Keep logs of signal interceptions

Physical Demands

Radio intelligence operators may have to sit for long periods and listen to radio transmissions.

Special Qualifications

Although there are women radio intelligence operators, some specialties in this occupation are only open to men.

Helpful Attributes

Helpful school subjects include math, speech, typing, and foreign languages. Helpful attributes include:

- Interest in working with radio equipment
- Interest in finding clues that help answer questions
- Ability to remain alert while doing repetitive tasks
- A long attention span

Work Environment

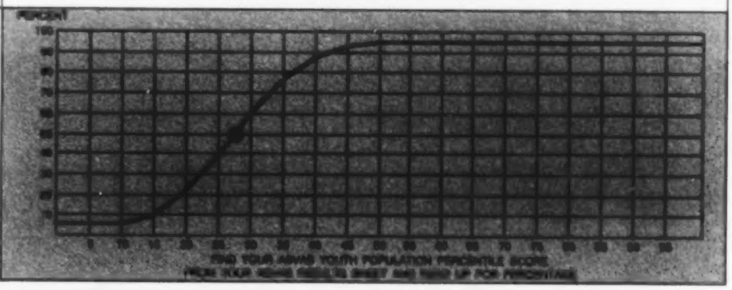
Radio intelligence operators may work indoors or outdoors, depending on assignment. They may also work in airplanes, ships, and land vehicles.

ASVAB OCCUPATIONAL GROUP

PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION

ELECTRONICS AND ELECTRICAL

PAGES 4 TO 6 EXPLAIN THIS GRAPH



Training Provided

Job training consists of between 17 and 24 weeks of classroom instruction, including practice in operating radio equipment. Course content typically includes:

- Use of specialized radio receivers
- Security operations
- Morse code

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian radio intelligence operators work for government agencies like the National Security Agency (NSA), the Central Intelligence Agency (CIA), and the Federal Bureau of Investigation (FBI). They also work in related jobs for private electronics and communications companies. They perform duties similar to military radio intelligence operators and may also be called electronic intelligence operations specialists.

Opportunities

The military has about 25,650 radio intelligence operators. On average, the services need about 2,970 new intelligence operators each year. After job training, radio intelligence operators typically perform routine radio monitoring work under close supervision. With experience, they work more independently analyzing radio signals. In time, they may advance to positions of increased responsibility, such as supervising other radio intelligence operators.

RADIO OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Radios are a vital part of the military's communication system helping to link together air, sea, and ground forces. Radio operators transmit and receive messages using radio equipment.

What They Do

Radio operators in the military perform some or all of the following duties:

- Transmit, receive, and log radio messages according to military procedures
- Encode and decode classified messages
- Set up and tune field radio equipment
- Monitor emergency frequencies for distress calls
- Maintain radio and teletype equipment

Physical Demands

Normal hearing and the ability to speak clearly and distinctly are required to enter this occupation.

Helpful Attributes

Helpful school subjects include typing, English, and speech. Helpful attributes include:

- Interest in working with radio equipment
- Interest in learning secret codes

Work Environment

Radio operators may work either indoors or outdoors, depending on their assignment. They may be assigned to ships, aircraft, land bases, or mobile field units.

Training Provided

Job training consists of between 10 and 15 weeks of classroom instruction, including practice in operating radio equipment. Course content typically includes:

- Use of various types of radio and teletype equipment
- Procedures for setting up field radio equipment
- Maintenance and care of radio and teletype equipment

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian radio operators work in airports, harbors, police stations, fire stations, and aboard ships. Their duties are similar to duties assigned to military radio operators, although civilian radio operators do not usually work in field units. They may be called airline radio operators, radio officers, or radiotelephone operators, depending on their specialty.

Opportunities

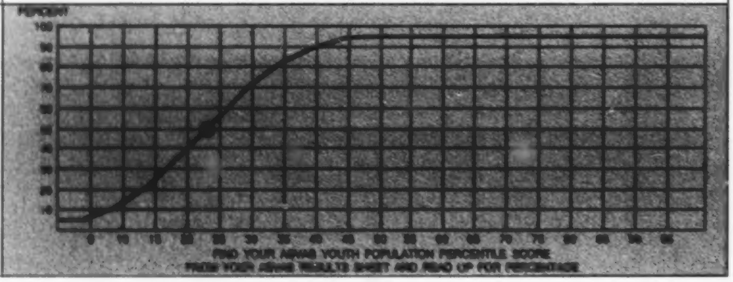
The military has about 50,170 radio operators. On average, the services need about 6,520 new operators each year. After job training, radio operators prepare and send messages under supervision. With experience, they work more independently. In time, they may become managers of one or more communications stations.

ASVAB OCCUPATIONAL GROUP

PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION

ELECTRONICS AND ELECTRICAL

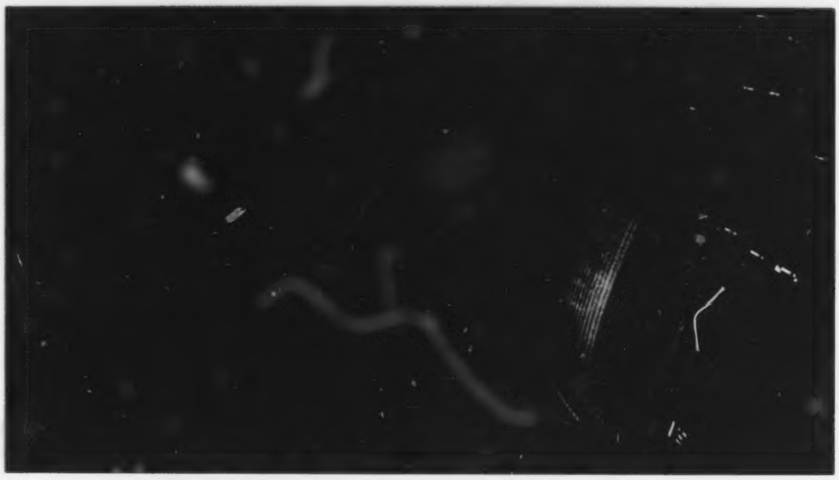
PAGES 4 TO 6 EXPLAIN THIS GRAPH



SPACE SYSTEMS SPECIALISTS

Navy
Air Force

Orbiting satellites and other space vehicles are used for communications, weather forecasting, and collecting intelligence data. In the future, more and more military operations will involve space systems. Space systems specialists operate and repair spacecraft ground control command equipment, including electronic systems that track spacecraft location and operation.



What They Do

Space systems specialists in the military perform some or all of the following duties:

- Transmit and verify spacecraft commands using aerospace ground equipment
- Monitor computers and telemetry display systems
- Analyze data to determine spacecraft operational status
- Repair ground and spacecraft communication equipment
- Assist in preparing spacecraft commands to meet mission objectives
- Operate data handling equipment to track spacecraft

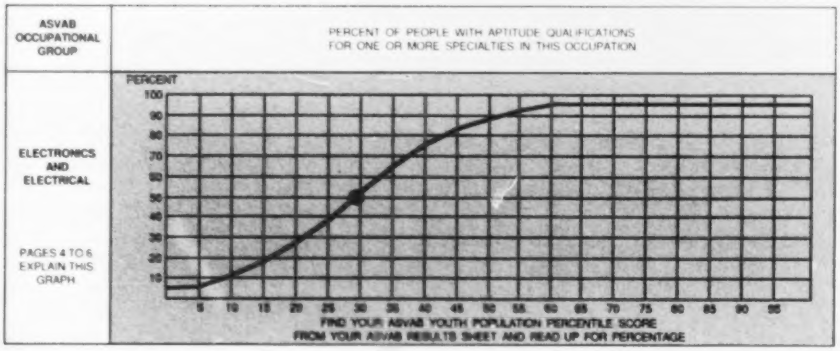
Work Environment

Space systems specialists work in space operations centers.

Training Provided

Job training consists of between 17 and 30 weeks of classroom instruction, including practice in spacecraft command and control operations. Course content typically includes:

- Operation of electronic transmitting, receiving, and computing equipment
- Analysis of data that indicate spacecraft operational status
- Application of electronic and satellite system principles
- Alignment of ground and spacecraft communication systems
- Space command and control system operational procedures



Helpful Attributes

Helpful school subjects include physics, geometry, algebra, and trigonometry. Helpful attributes include:

- Interest in operating electronic equipment and systems
- Interest in working as part of a team
- Ability to work with formulas to solve math problems
- Interest in space, the "final frontier"

Civilian Counterparts

Civilian space systems specialists work for the National Aeronautics and Space Administration (NASA), the U.S. Weather Service, and private satellite communications firms. They perform duties similar to military space systems specialists.

Opportunities

The military has about 5,750 space systems specialists. On average, the services need about 800 new specialists each year. After job training, space systems specialists are assigned to space operations centers, where they operate and repair space systems equipment under close supervision. After gaining experience, they work more independently and may help train new workers. Eventually, space systems specialists may advance to become supervisors of space operations centers.

SURVEYING TECHNICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

Surveys measure the distance and elevation of the land and the shape of its terrain. Surveys are used by the military to make maps, plan construction projects, and plan combat operations. Surveying technicians conduct land surveys to locate boundaries and other positions on land.

What They Do

Surveying technicians in the military perform some or all of the following duties:

- Read maps in order to locate benchmarks (permanent land reference points)
- Mark reference points with stakes
- Measure distances between survey points using tape or electronic land measuring devices
- Record measurements of distance, elevation, and angles
- Compute position from star observations
- Compute survey results using mathematical formulas

Helpful Attributes

Helpful school subjects include algebra, geometry, and trigonometry. Helpful attributes include:

- Preference for working outdoors
- Ability to work well as a member of a team
- Interest in map reading

Training Provided

Job training consists of between 10 and 31 weeks of classroom instruction, including practice in surveying. Training length varies depending on specialty. Course content typically includes:

- Ground survey principles
- Use of surveying instruments
- Techniques of field artillery surveying

Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

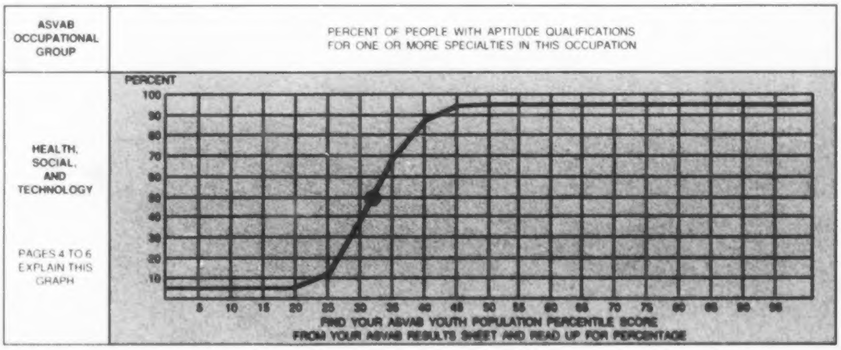
Surveying technicians work outdoors in all climates and weather conditions.

Civilian Counterparts

Civilian surveying technicians work for construction, engineering, and architectural firms. They also work for petroleum and mining companies and government agencies. Their duties are similar to those performed in the military.

Opportunities

The services have about 4,740 surveying technicians. On average, they need about 750 new technicians each year. After job training, surveying technicians perform basic survey duties and, with experience, they progress to more difficult tasks. Eventually, surveying technicians may become chiefs of surveying parties and may supervise the work of one or more surveying teams.



WEATHER OBSERVERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Weather information is important for planning military operations. Accurate weather forecasts are needed to plan troop movements, airplane flights, and ship traffic. Weather observers collect information about weather and sea conditions for use by meteorologists. They make visual observations and take readings from weather equipment, radar scans, and satellite photographs.

What They Do

Weather observers in the military perform some or all of the following duties:

- Launch weather balloons to record wind speed and direction
- Identify the types of clouds present and estimate cloud height and amount of cloud cover
- Take readings of barometric pressure, temperature, humidity, and sea conditions
- Operate radio equipment to receive information from satellites
- Plot weather information on maps and charts
- Forecast weather based on readings and observations

Work Environment

Weather observers usually work in offices either on land or aboard ships. They work outdoors when making visual weather observations and launching weather balloons.

Physical Demands

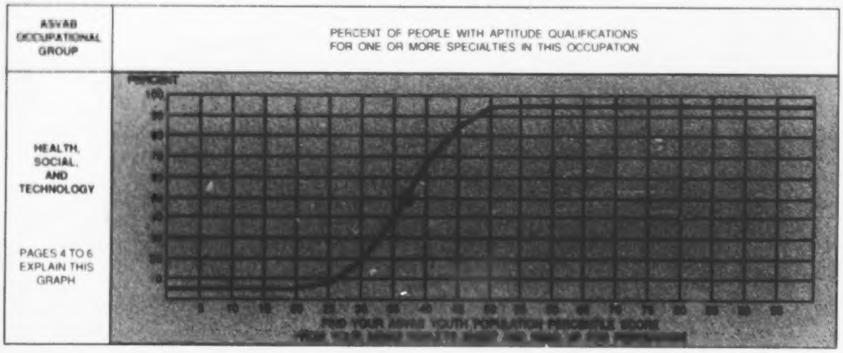
Some specialties may involve heavy lifting.

Training Provided

Job training consists of between 7 and 18 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Basic meteorology (study of weather) and oceanography (study of the ocean)
- Methods for plotting weather data
- Analyzing radar and satellite weather information
- Preparation of weather reports

Advanced training in weather forecasting is available for some specialties. The Navy offers certified apprenticeship programs for one specialty in this occupation.



Helpful Attributes

Helpful school subjects include geography, mathematics, and physical science. Helpful attributes include:

- Interest in working with formulas, tables, and graphs
- Ability to communicate effectively
- Interest in learning how weather changes

Civilian Counterparts

Civilian weather observers work for government agencies (such as the U.S. Weather Service), commercial airlines, radio and television stations, and private weather forecasting firms. They perform duties similar to military weather observers. Civilian weather observers may also be called oceanographer assistants and weather clerks.

Opportunities

The services have about 5,320 weather observers. On average, they need about 530 new observers each year. After job training, new observers collect weather information under the supervision of experienced workers. With experience, they perform more complex collection and analysis tasks and may become weather forecasters. Eventually, they may become managers of weather observation units.

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Administrative Occupations

- Accounting Specialists
- Administrative Support Specialists
- Computer Operators
- Court Reporters
- Data Entry Specialists
- Dispatchers
- Flight Operations Specialists
- Lodging Specialists
- Maintenance Data Analysts
- Payroll Specialists
- Personnel Specialists
- Postal Specialists
- Recruiting Specialists
- Sales and Stock Specialists
- Secretaries and Stenographers
- Shipping and Receiving Specialists
- Stock and Inventory Specialists
- Telephone Operators
- Teletype Operators
- Trainers
- Transportation Specialists

ACCOUNTING SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Millions of paychecks are issued and large amounts of materials are purchased by the services each year. To account for military spending, exact financial records must be kept of these transactions. Accounting specialists organize and keep track of financial records. They also audit (check the accuracy of) accounting records and develop cost information for budget estimates.

What They Do

Accounting specialists in the military perform some or all of the following duties:

- Record details of financial transactions on accounting forms
- Prepare forms for putting payment information into computers
- Audit financial records
- Prepare bills for payment
- Compute cost information on supplies and equipment
- Organize information on past expenses to help plan budgets for future expenses

Special Qualifications

Depending on the specialty, entry into this occupation may require courses in mathematics, bookkeeping, or accounting.

Helpful Attributes

Helpful school subjects include mathematics, statistics, business machines, bookkeeping, accounting, and typing. Helpful attributes include:

- Interest in working with numbers
- Interest in operating office machines such as computers, calculators, and bookkeeping machines
- Interest in work requiring accuracy and attention to detail

Work Environment

Accounting specialists work in offices on land or aboard ships.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction, including practice in accounting techniques. Course content typically includes:

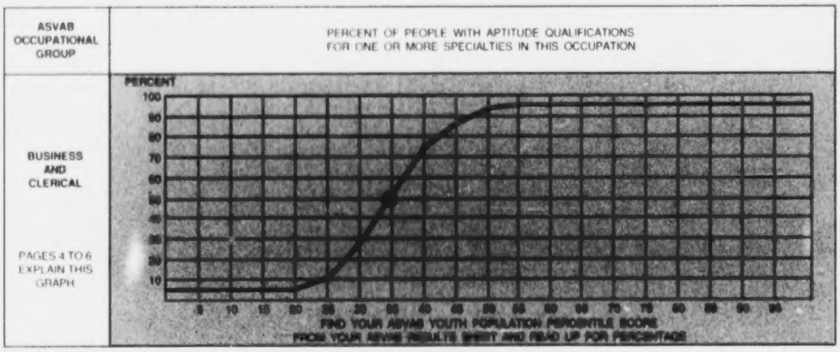
- Accounting principles and procedures
- Statistical analysis to interpret financial data
- Auditing techniques
- Techniques for preparing budgets and financial reports

Civilian Counterparts

Civilian accounting specialists work for all types of businesses and government agencies. They perform duties similar to military accounting specialists. Civilian accounting specialists are also called bookkeepers, accounting clerks, audit clerks, cost clerks, budget clerks, or statistical clerks.

Opportunities

The services have about 10,810 accounting specialists. On average, they need about 1,010 new specialists each year. After job training, specialists may work alone or with others under the direction of supervisors. With experience, they are given more difficult tasks, such as auditing, and may become responsible for checking the work of others. In time, accounting specialists may become supervisors or managers of accounting units.



ADMINISTRATIVE SUPPORT SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military must keep accurate information for planning and managing its operations. Written and automated records are kept on equipment, funds, personnel, supplies, and all other aspects of the military. Administrative support specialists record information, type reports, and maintain files to assist in the operation of military offices.

What They Do

Administrative support specialists in the military perform some or all of the following duties:

- Type letters, reports, requisition (order) forms, and official orders
- Proofread written material for spelling, punctuation, and grammatical errors
- Organize and maintain files and publications
- Order office supplies
- Greet and direct office visitors
- Sort and deliver mail to office workers
- Schedule training and leave for unit personnel
- Answer phones and provide general information

Work Environment

Administrative support specialists work in office settings, both on land and aboard ship.

Helpful Attributes

Helpful school subjects include English, math, and typing. Helpful attributes include:

- Interest in keeping organized and accurate records
- Preference for office work
- Interest in operating typewriters, word processors, and other office machines

Civilian Counterparts

Civilian administrative support specialists work in most business, government, and legal offices. They perform duties similar to military administrative support specialists and are called clerk typists, general office clerks, administrative assistants, or office managers.

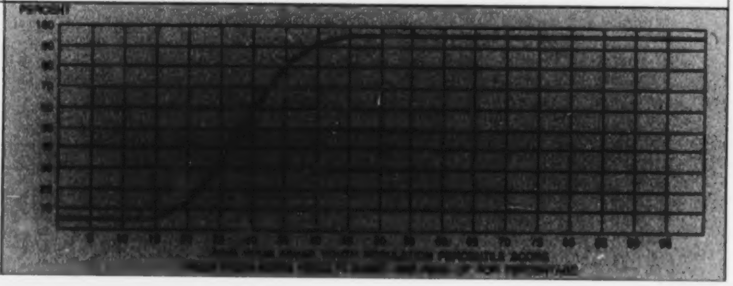
Training Provided

Job training consists of between 7 and 10 weeks of classroom instruction, including practice in various office functions. Course content typically includes:

- Typing and clerical skills
- Setting up and maintaining filing and publication systems
- Preparing forms and correspondence in military style

Opportunities

The military has about 77,500 administrative support specialists. On average, the services need about 10,600 new specialists each year. After job training, specialists develop their skills under close supervision. As they gain experience, specialists are assigned more difficult tasks and work more independently. In time, they may supervise and eventually manage an office. With experience and additional training, they may become secretaries, legal technicians, personnel specialists or go into related fields.

ASVAB OCCUPATIONAL GROUP	PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION
BUSINESS AND CLERICAL PAGES 4 TO 6 EXPLAIN THIS GRAPH	

COMPUTER OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Computer systems include various devices such as tape and disk drives, processing units, printers, communication devices, and control consoles. Computer operators monitor, operate, and control computer system operations.

What They Do

Computer operators in the military perform some or all of the following duties:

- Mount tapes and disks onto drives following programmer instructions
- Operate computers by entering commands through consoles
- Operate and maintain high speed printers
- Monitor operations and locate causes of problems that occur
- Schedule the flow of jobs with programmers
- Operate specialized computers that calculate position, target weapons, and operate machinery

Helpful Attributes

Helpful school subjects include general math and computer science. Helpful attributes include:

- Interest in working with computers
- Ability to follow detailed instructions
- Ability to work quickly and accurately

Training Provided

Job training consists of between 7 and 11 weeks of classroom instruction, including practice in computer and peripheral equipment operation. Course content typically includes:

- Introduction to computer systems
- Use of computer consoles and peripheral equipment
- Procedures for ensuring computer security
- Computer system maintenance

Further training occurs on the job and through advanced courses.

Work Environment

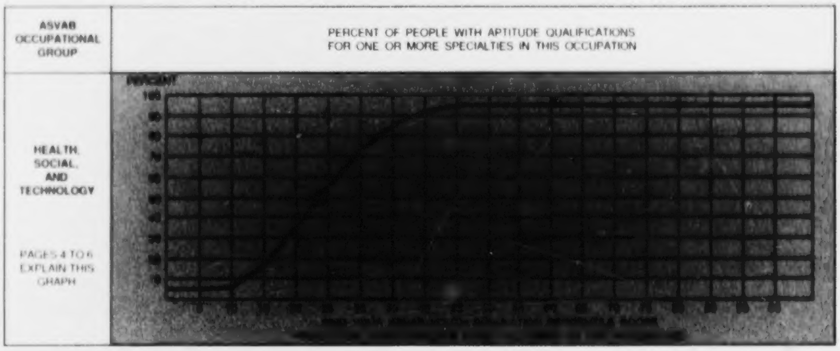
Computer operators work in computer rooms, which may be located aboard ship, in mobile units, or in office buildings.

Civilian Counterparts

Computer operators work for government agencies, computer firms, and all types of businesses. They perform duties similar to military computer operators.

Opportunities

The services have about 12,300 computer operators. On average, they need about 1,720 new operators each year. After job training, operators are usually assigned to data processing centers. Some computer operators are assigned to units such as supply or communications where computer systems are used in daily operations. They work as part of data processing teams under the direction of supervisors. With experience, computer operators work under less supervision. In time, they may advance to supervise computer center operations.



COURT REPORTERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military has its own judicial system for enforcement of the military code of law. Military courts conduct hearings, investigations, courts of inquiry, and court-martials. They rule on cases ranging from insubordination (refusing to obey a superior officer's command) to traffic violations on military bases. Court reporters record legal proceedings to maintain an accurate record of testimony and decisions delivered.

What They Do

Court reporters perform some or all of the following duties:

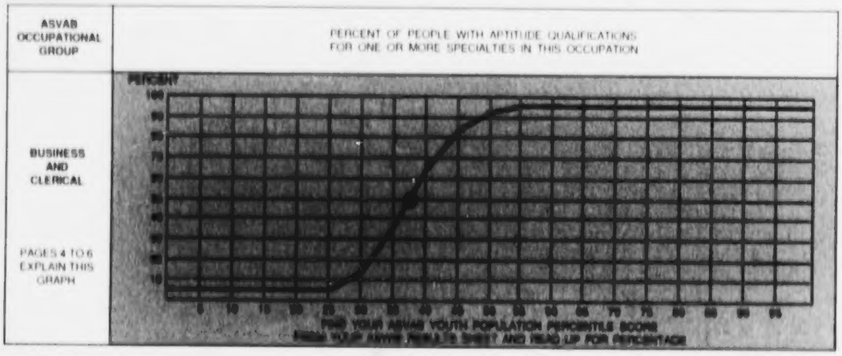
- Type text from stenotyped records, shorthand notes, or taped records of court proceedings
- Prepare records of hearings, investigations, courts-martial, and courts of inquiry
- Prepare legal forms and documents
- Process incoming and outgoing correspondence and maintain legal files
- Maintain the legal calendar, law library, and reference file of pending cases

Physical Demands

Court reporters are required to have good hearing and clear speech to record and read aloud court proceedings.

Special Qualifications

The ability to type 40 words per minute is required to enter some specialties in this occupation.



Helpful Attributes

Helpful school subjects include English, business math, typing, and commercial law. Helpful attributes include:

- A good memory
- Ability to listen carefully
- Ability to keep accurate records
- Interest in legal proceedings

Work Environment

Court reporters work in offices and courtrooms.

Training Provided

Job training consists of between 6 and 10 weeks of instruction, including the use and operation of stenotype machines. Course content typically includes:

- High speed transcription
- Legal forms and records management
- Military judicial processes

Civilian Counterparts

Civilian court reporters often work for government agencies, law firms, or local, state, and federal courts and legislatures. They may be called court clerks or court recorders. They perform duties similar to military court reporters.

Opportunities

The services have about 600 court reporters. On average, they need about 60 new reporters each year. After job training, court reporters are assigned to legal offices, where they work under close supervision. In time, they gain more responsibility and may help train other reporters. Eventually, they may become managers of legal support staff units. Some specialties are entered only after 1 or 2 years of experience as an administrative support specialist.

DATA ENTRY SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses computers to store and process data on personnel, weather, finances, and many other operations. Before this information can be processed by a computer, it must first be in a form the computer can read. Data entry specialists operate keyboard equipment to enter information into computers or onto tape, disk, or punch cards the computer can read.

What They Do

Data entry specialists in the military perform some or all of the following duties:

- Operate keypunch machines to prepare computer punch cards
- Code data onto data processing tape using magnetic tape writers
- Use automatic typewriters to put data on computer paper tapes
- Key information into disk storage
- Check and correct computer input data using verifying machines
- Prepare tapes and cards for computer input and processing

Helpful Attributes

Helpful school subjects include typing. Helpful attributes include:

- Interest in work requiring accuracy and attention to detail
- Skill in using electric typewriters
- Preference for work that involves machines more than people

Training Provided

Job training consists of between 8 and 13 weeks of classroom instruction, including practice in using data entry machines. Training length varies depending on specialty. Course content typically includes:

- Operation of keypunch, tape writer, and verifier machines
- Data processing security procedures
- Computer systems concepts
- Computer system equipment operation

Work Environment

Data entry specialists usually work in office settings. They work in land-based computer centers, mobile combat units, or shipboard computer rooms.

Civilian Counterparts

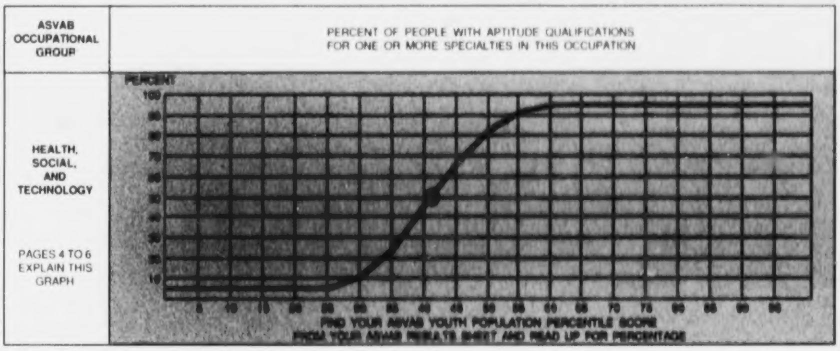
Civilian data entry specialists work in every industry that uses computers. They may work for computer manufacturers, government agencies, universities, public utilities, or data processing centers. They perform duties similar to military data entry specialists. However, civilian data entry specialists usually specialize in operating one specific machine and are called key-punchers, data coders, or verifier machine operators.

Physical Demands

Data entry specialists may sit and key information for long periods.

Opportunities

The services have about 3,780 data entry specialists. On average, they need about 410 new data entry specialists each year. After job training, specialists are assigned to automated data processing sections on land or aboard ship. Initially, they work with other data entry specialists under the direction of a supervisor. With experience, they work with less supervision and are given more responsible tasks. Eventually, they have the opportunity to advance to data entry supervisor positions. Often, they receive additional training and become computer operators or programmers.



DISPATCHERS

Army
Navy
Air Force
Marine Corps

Military trucks, buses, and other vehicles carry freight and passengers millions of miles each year. Trips and maintenance are carefully scheduled to make the best use of vehicles and drivers. Dispatchers assign motor vehicles and drivers for the transportation of freight or passengers. They also schedule repair and maintenance of motor vehicles and equipment.

What They Do

Dispatchers in the military perform some or all of the following duties:

- Schedule the use of motor vehicles
- Assign drivers for trucks, buses, and cars
- Determine which vehicles to use based on freight or passenger movement requirements
- Schedule repair and maintenance of vehicles
- Determine transportation routes
- Review requests for using vehicles
- Prepare reports about fuel used, miles driven, and number of vehicles needing repair

Helpful Attributes

Helpful school subjects include general math, driver's education, and auto mechanics. Helpful attributes include:

- Interest in planning and scheduling the work of others
- Preference for working with figures

Physical Demands

The ability to speak clearly and distinctly is required to enter some specialties in this occupation.

Training Provided

Job training may consist of on-the-job training or classroom instruction, depending on the specialty. Training length varies between 7 and 17 weeks. Course content typically includes:

- Procedures for transporting passengers and freight
- Motor vehicle maintenance scheduling
- Vehicle scheduling procedures

Further training occurs on the job and through advanced courses.

Work Environment

Dispatchers work in the dispatch offices of motor pools and motor transport terminals. Sometimes, they work outdoors while dispatching vehicles during field maneuvers.

Civilian Counterparts

Civilian dispatchers work for bus lines, trucking firms, police departments, auto repair garages, taxi companies, and motor vehicle dealerships. They perform duties similar to military dispatchers. They usually specialize in either dispatching passenger carriers or freight transports.

Opportunities

The services have about 6,250 dispatchers. On average, they need about 890 new dispatchers each year. After job training, dispatchers work under close supervision. With experience, they work more independently. In time, they may advance to supervisory positions in the transportation field. In some specialties, recruits may start out as truck drivers before becoming dispatchers.

ASVAB OCCUPATIONAL GROUP

PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION

MECHANICAL AND CRAFTS

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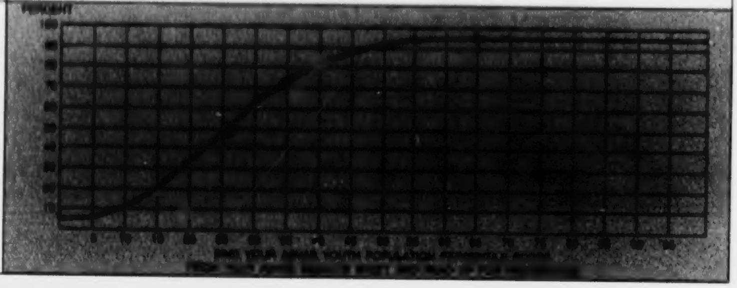


FLIGHT OPERATIONS SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates one of the largest fleets of aircraft in the world. Hundreds of transport, passenger, and combat airplanes and helicoptors fly missions every day. Accurate flight information keeps operations safe and efficient. Flight operations specialists prepare and provide flight information for air and ground crews.

What They Do

Flight operations specialists in the military perform some or all of the following duties:

- Help plan flight schedules and air crew assignments
- Keep flight logs on incoming and outgoing flights
- Keep air crew flying records and flight operations records
- Receive and post weather information and flight plan data, such as air routes and arrival and departure times
- Coordinate air crew needs, such as ground transportation
- Plan aircraft equipment needs for air evacuation and dangerous cargo flights
- Check military flight plans with civilian agencies

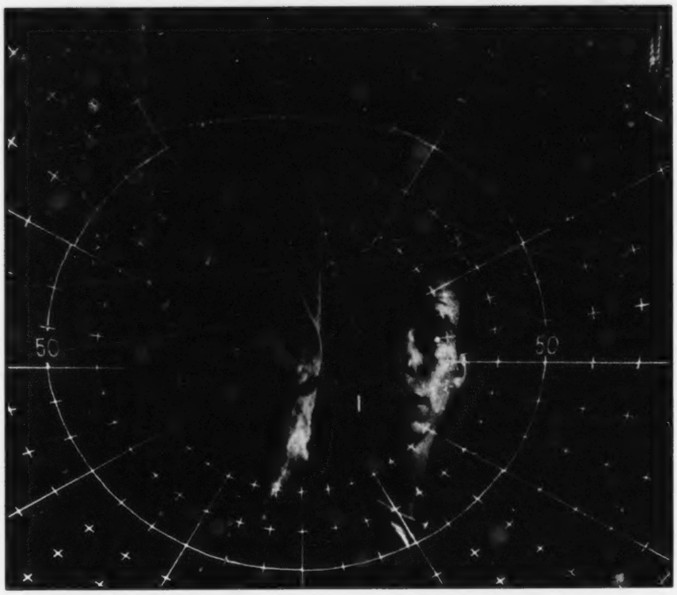
Helpful Attributes

Helpful school subjects include general math and typing. Helpful attributes include:

- Interest in work involving computers
- Ability to use typewriters and office machines
- Interest in work that helps others

Work Environment

Flight operations specialists work indoors in flight control centers or air terminals.



Training Provided

Job training consists of between 7 and 14 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Introduction to aviation operations
- Procedures for scheduling aircraft and assigning air crews
- Flight planning and airfield operations
- Preparing flight operations reports and records

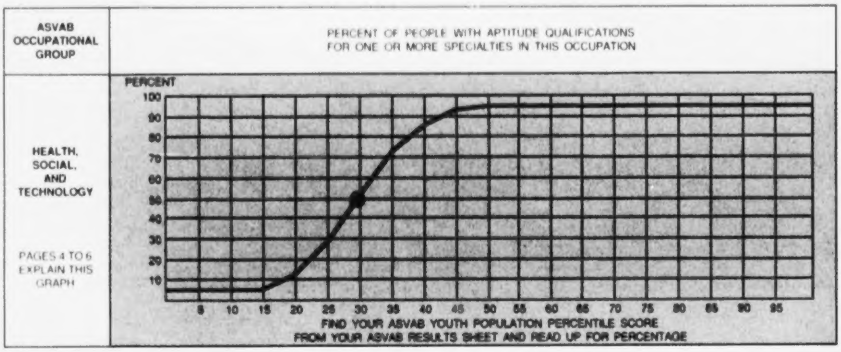
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian flight operations specialists work for commercial and private airlines and air transport companies. They perform duties similar to military flight operations specialists.

Opportunities

The services have about 5,110 flight operations specialists. On average, they need about 570 new specialists each year. After training, new specialists keep logs and type schedules. With experience, they schedule air crews. In time, they may plan flight operations and supervise others.



LODGING SPECIALISTS

Army
Navy
Air Force
Coast Guard

Military personnel occasionally travel for training and work. When traveling, personnel often stay in temporary lodging on military bases. Lodging specialists operate and manage temporary lodging facilities for military personnel.

What They Do

Lodging specialists in the military perform some or all of the following duties:

- Register personnel and assign them rooms
- Issue courtesy items, such as alarm clocks, padlocks, and towels
- Receive payments and keep financial records
- Operate switchboards to relay calls and provide information to callers
- Keep accurate records on room occupancy
- Arrange hotel accommodations when lodging on base is not available

Physical Demands

Lodging specialists must be able to speak clearly to communicate with guests.

Helpful Attributes

Helpful school subjects include math and bookkeeping. Helpful attributes include:

- Interest in meeting and serving people
- Ability to work independently
- Ability to communicate effectively

Work Environment

Lodging specialists usually work in hotel-type facilities located on military bases.

Training Provided

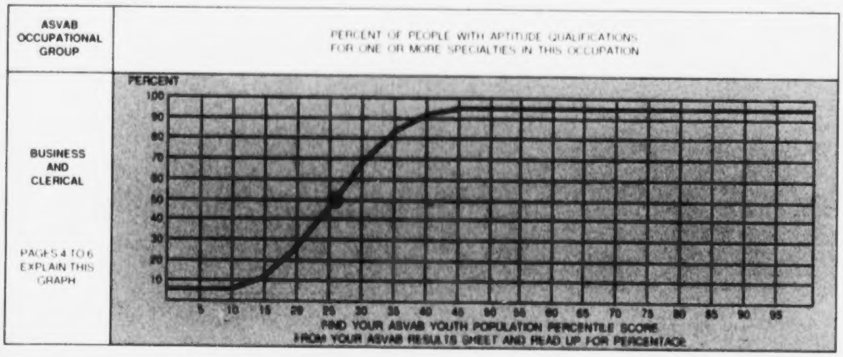
Training for this occupation occurs on the job.

Civilian Counterparts

Civilian lodging specialists work for hotels or motels. They perform many of the same duties as military lodging specialists; however, they may specialize as registration clerks, bookkeepers, cashiers, or telephone operators.

Opportunities

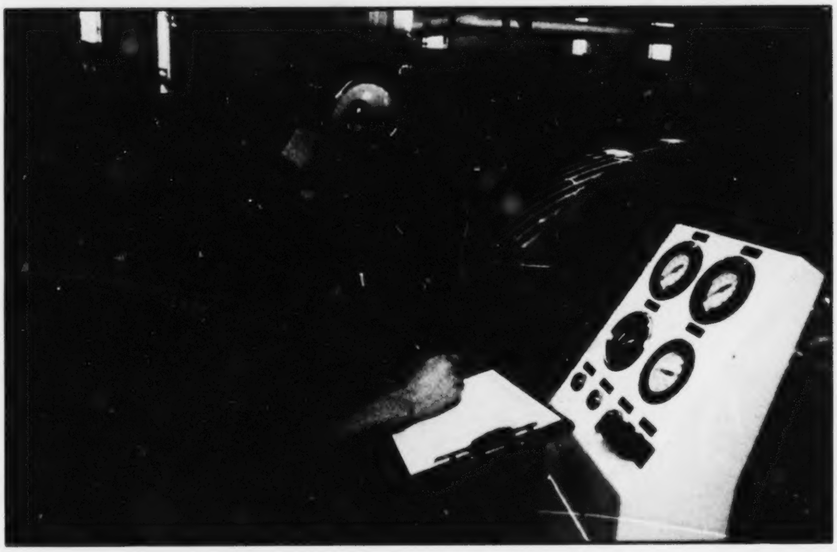
The military has about 2,950 lodging specialists. On average, the services need about 300 new specialists each year. After job training, they perform routine duties under the direction of a supervisor. With experience, they are assigned more challenging tasks, such as bookkeeping activities. In time, lodging specialists may supervise others and eventually manage lodging facilities.



MAINTENANCE DATA ANALYSTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Regular maintenance extends the useful lives of aircraft, vehicles, and machinery. To make sure military equipment is well maintained, the services prepare detailed maintenance schedules. Maintenance data analysts promote equipment maintenance. They watch schedules and notify mechanics about upcoming maintenance needs.



What They Do

Maintenance data analysts in the military perform some or all of the following duties:

- Review maintenance schedules and notify mechanics about the types of service needed
- Compare schedules to records of maintenance work actually performed
- Prepare charts and reports on maintenance activities
- Calculate how many mechanics and spare parts are needed to maintain equipment
- Operate computers and calculators to enter or retrieve maintenance data

Physical Demands

Some specialties require the ability to speak clearly.

Helpful Attributes

Helpful school subjects include general math and algebra. Helpful attributes include:

- Interest in working with numbers and statistics
- Preference for work requiring attention to detail
- Ability to use mathematical formulas
- Interest in working with computers

Work Environment

Maintenance data analysts usually work in office settings.

Training Provided

Job training consists of between 4 and 15 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

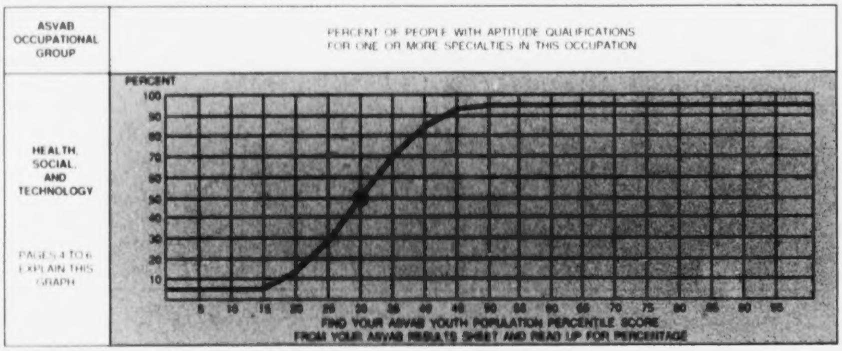
- Equipment maintenance management concepts
- Accounting procedures
- Statistical reporting methods
- Parts and supply inventory control procedures

Civilian Counterparts

Civilian maintenance data analysts work for government agencies, airlines, and large transportation firms. They also work for firms with large numbers of machines. They perform duties similar to military maintenance data analysts.

Opportunities

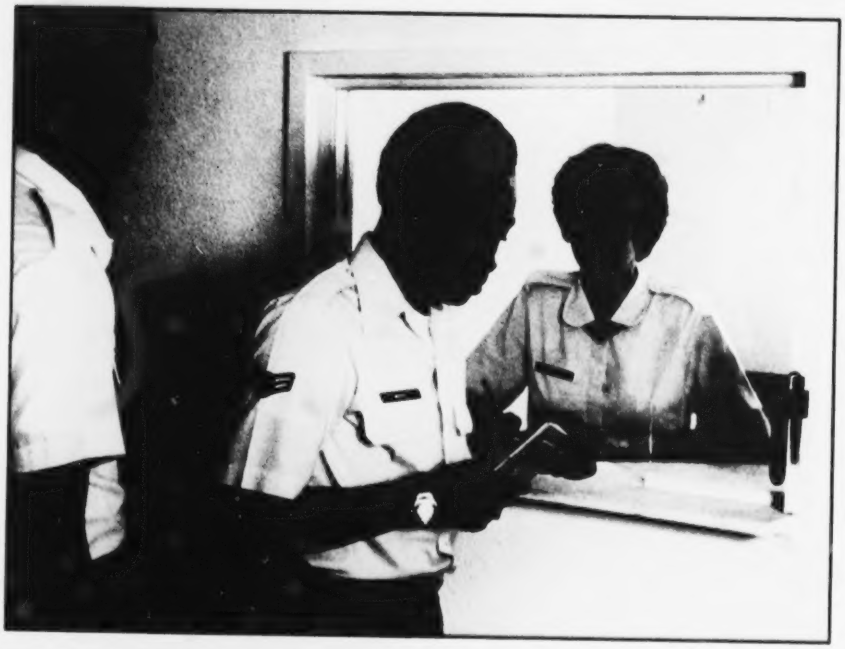
The services have about 12,400 maintenance data analysts. On average, they need 1,280 new analysts each year. After job training, new analysts work under close supervision. As they gain experience, they are given more responsibility and more difficult work assignments. Eventually, they may become supervisors of maintenance control units.



PAYROLL SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military is the largest employer in the United States. Every month, millions of military and civilian personnel are paid by the services. Payroll specialists compute payrolls and other allowances and prepare payments for military personnel.



What They Do

Payroll specialists in the military perform some or all of the following duties:

- Compute basic pay and allowances, bonuses, and other payments
- Compute social security, income tax, insurance, and other deductions
- Prepare pay and travel vouchers (checks), earnings and deductions statements, and financial accounts and reports
- Compute travel distances and travel pay allowances
- Prepare, maintain, and audit personnel financial records
- Disburse cash, checks, advance travel pay, and bonds

Helpful Attributes

Helpful school subjects include math, accounting, business machines, and typing. Helpful attributes include:

- Interest in working with numbers
- Ability to use typewriters, computers, and calculators
- Preference for work requiring accuracy and attention to detail

Training Provided

Job training consists of between 6 and 8 weeks of classroom instruction. Course content typically includes:

- Preparation and maintenance of financial records
- Office operations and payroll and travel pay procedures
- Operation and use of calculators and other office machines
- Computation of pay and deductions

Work Environment

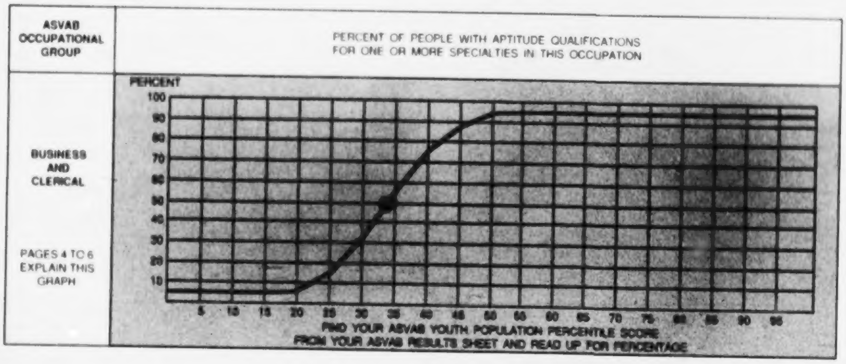
Payroll specialists usually work in office settings on land or aboard ship.

Civilian Counterparts

Civilian payroll specialists work for schools, hospitals, government agencies, and almost every kind of industrial and business firm. They perform duties similar to military payroll specialists and are commonly called payroll clerks.

Opportunities

The military has about 9,500 payroll specialists. On average, the services need about 940 new specialists each year. After job training, specialists work in pay or travel sections and perform routine pay and finance activities. Initially, they work under the close supervision of an experienced payroll specialist. With experience, they work more independently. In time, they help train and supervise other payroll specialists. Eventually, they may become office managers or supervisors of pay and finance centers.



PERSONNEL SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Personnel management helps individuals develop their military careers. It also serves the military's need to fill jobs with qualified workers. Personnel specialists collect and store information about the people in the military, such as training, job assignment, promotion, and health information. They work directly with service personnel and their families.

What They Do

Personnel specialists in the military perform some or all of the following duties:

- Organize, maintain, and review personnel records
- Enter and retrieve personnel information using computer terminals
- Assign personnel to jobs
- Prepare organizational charts, write official correspondence, and prepare reports
- Provide career guidance
- Assist personnel and their families who have special needs
- Provide information about personnel programs and procedures to service men and women

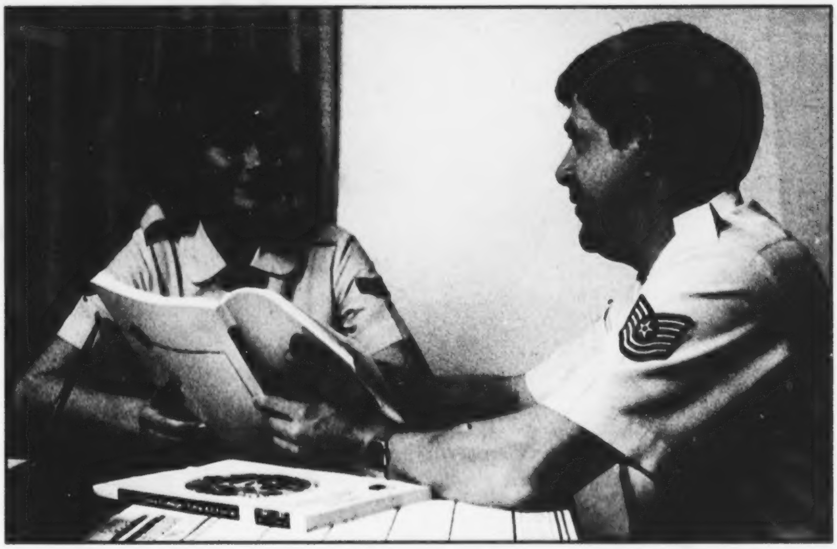
Helpful Attributes

Helpful school subjects include English, speech, and typing. Helpful attributes include:

- Ability to follow detailed procedures and instructions
- Ability to compose clear instructions or correspondence
- Interest in working closely with others

Work Environment

Personnel specialists normally work in office settings on land or aboard ships.



Training Provided

Job training consists of between 7 and 9 weeks of classroom instruction. Course content typically includes:

- Basic typing skills
- Preparation of military correspondence and forms
- Personnel records management
- Computer update and retrieval procedures

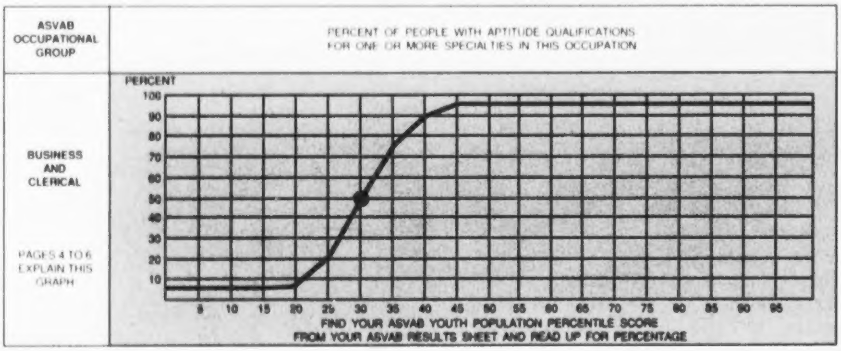
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian personnel specialists work for all types of organizations, including industrial firms, retail establishments, and government agencies. They perform duties similar to military personnel clerks. However, specific jobs vary from company to company.

Opportunities

The services have about 30,350 personnel specialists. On average, they need about 3,500 new specialists each year. After job training, specialists process personnel actions and add information to records. In time, they may supervise other personnel specialists and eventually may manage personnel offices.



POSTAL SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates its own postal service for official military communications and messages. In addition, it delivers mail to thousands of service men and women all over the world. Postal specialists process incoming and outgoing mail between military and civilian postal systems. They also sell stamps and money orders and provide services to postal customers.

What They Do

Postal specialists in the military perform some or all of the following duties:

- Process mail using metering and stamp-canceling machines
- Weigh packages, using scales, to determine postage due
- Examine packages to ensure they meet mailing standards
- Process and sort registered, certified, and insured mail
- Receive payment for and issue money orders and stamps
- Prepare postal reports and claims for lost or damaged mail

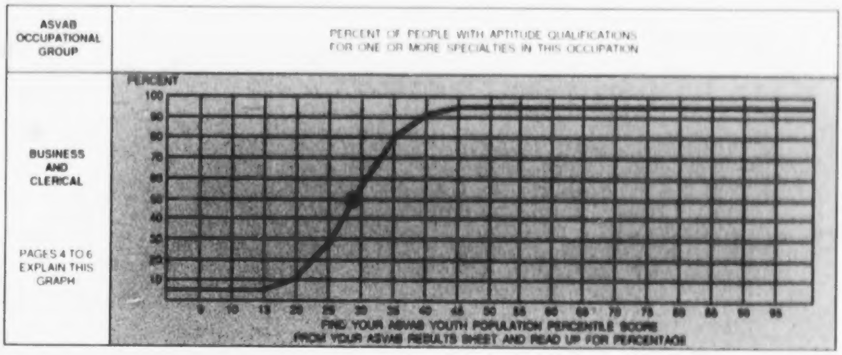
Helpful Attributes

Helpful school subjects include English, math, and typing. Helpful attributes include:

- Patience and a courteous manner
- Ability to check names and numbers with speed and accuracy
- Preference for work requiring attention to detail

Physical Demands

Postal specialists may have to lift and carry heavy sacks of mail or large packages.



Work Environment

Postal specialists work in post offices and mailrooms on land or aboard ships.

Training Provided

Job training consists of between 3 and 4 weeks of classroom instruction. Course content typically includes:

- Post office operations and procedures
- Mail and postal item processing and sorting
- Domestic and international mail delivery procedures
- Use of metering, stamp canceling, and other machines
- Postal reports and the processing of customer claims and complaints

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian postal specialists work for the United States Postal Service and for private courier or express mail firms. They perform many of the same duties as military postal specialists. They are usually called postal clerks.

Opportunities

The military has about 4,190 postal specialists. On average, the services need about 620 new specialists each year. After job training, they work alone in small mail rooms or with other postal specialists in larger postal centers. With experience, they may help train new workers and may become supervisors of other postal specialists. Eventually, they may become superintendents of postal centers.

RECRUITING SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each year, the military services enlist over 300,000 young men and women. Attracting young people with the kinds of talent needed to succeed in today's military is a large task. Recruiting specialists provide information about military careers to young people, parents, schools, and local communities. They explain service employment and training opportunities, pay and benefits, and service life.

What They Do

Recruiting specialists in the military perform some or all of the following duties:

- Interview civilians interested in military careers
- Describe military careers to groups of high school students
- Explain the purpose of the ASVAB (Armed Services Vocational Aptitude Battery) and test results to students and counselors
- Participate in local job fairs and career day programs
- Talk about the military to community groups
- Counsel military personnel about career opportunities and benefits

Work Environment

Recruiting specialists work in local recruiting offices, on high school campuses and career centers, and in local communities. They may have to travel often.

Training Provided

Job training consists of between 4 and 6 weeks of classroom instruction. Course content typically includes:

- Recruiting procedures
- Interviewing techniques
- Public speaking techniques
- Community relations practices

Further training occurs on the job and through advanced courses.

Helpful Attributes

Helpful school subjects include the social sciences, speech, psychology, and English. Helpful attributes include:

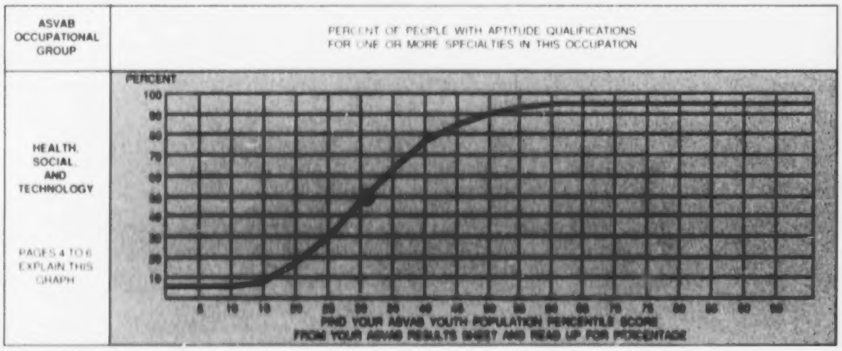
- Interest in working with youth
- Ability to speak before groups
- Ability to work independently

Civilian Counterparts

Civilian recruiting specialists work for businesses of all kinds searching for talented people to hire. Recruiters also work for colleges seeking to attract and enroll talented high school students.

Opportunities

The services have about 14,700 recruiting specialists. Normally, personnel must be in the service for several years before they are eligible to become recruiters. About 1,500 military personnel become recruiters each year. Recruiters may choose to make a career of recruiting and, in time, may supervise one or more recruiting offices. Many recruiters, however, spend only a few years in recruiting, and make their careers in other occupations.



SALES AND STOCK SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates retail stores and snackbars for its personnel on bases and aboard ships in the United States and overseas. Military stores, called exchanges, sell merchandise similar to that sold in civilian stores, but sell at a discount. Sales and stock specialists operate retail food and merchandise stores for military personnel.

What They Do

Sales and stock specialists in the military perform some or all of the following duties:

- Operate snackbars, laundries, and dry cleaning facilities
- Order and receive merchandise and food for retail sales
- Inspect food and merchandise for spoilage or damage
- Price and mark retail sales items, using markers and stamping machines
- Stock shelves and racks for the display of products
- Count merchandise and supplies during inventories
- Record and account for money received and prepare bank deposits

Work Environment

Sales and stock specialists work on land and aboard ships in retail stores, snackbars, and storerooms.

Physical Demands

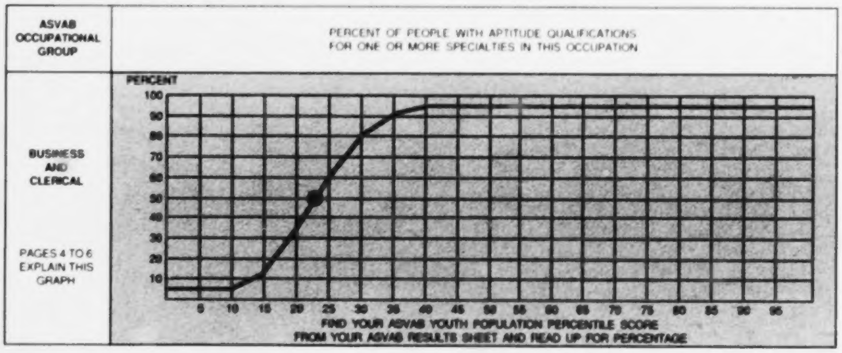
The ability to speak clearly is required.

Training Provided

Job training consists of between 6 and 7 weeks of classroom instruction for some specialties. For others, training occurs on the job. Course content includes:

- Stock procedures
- Vending machine operation and maintenance
- Record keeping and bookkeeping procedures

Further training occurs on the job.



Helpful Attributes

Helpful school subjects include bookkeeping, mathematics, and typing. Helpful attributes include:

- Interest in marketing and sales work
- Ability to use cash registers, calculators, and adding machines
- Interest in working with people

Civilian Counterparts

Civilian sales and stock specialists work in many kinds of retail businesses, such as grocery stores and department stores. They perform duties similar to military sales and stock specialists. They may also be called sales clerks or stock clerks.

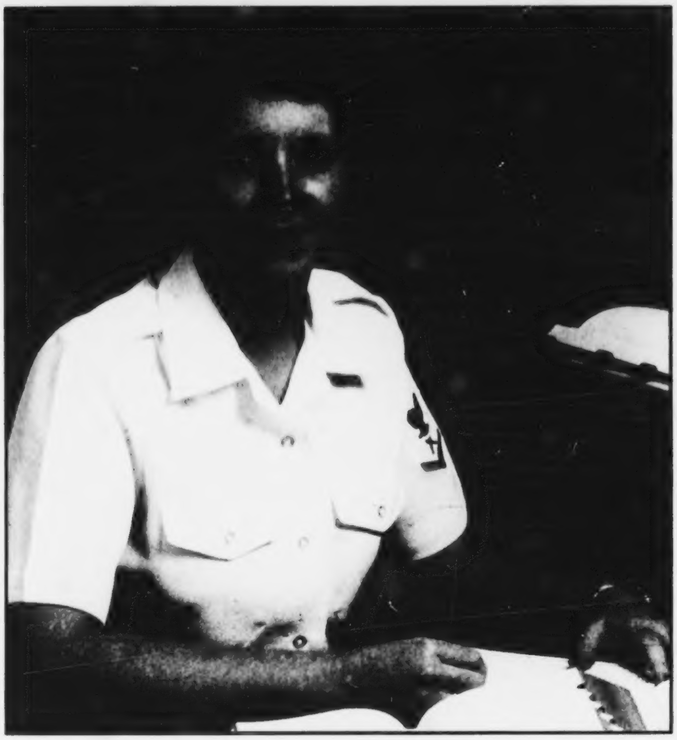
Opportunities

The services have about 4,180 sales and stock specialists. On average, they need about 420 new specialists each year. After job training, sales and stock specialists are assigned to bases or shipboard retail stores and storerooms. Initially, they work under close supervision. With experience, they work more independently, train new workers, and assume more responsibility for sales and stock activities. In time, they may become department supervisors or retail store supervisors.

SECRETARIES AND STENOGRAPHERS

Army
Navy
Marine Corps
Coast Guard

Shorthand is a way of writing rapidly with symbols instead of words. It is used for taking dictation and making notes of meetings. Secretaries and stenographers assist office managers by taking dictation and notes, preparing correspondence, and providing administrative support.



What They Do

Secretaries and stenographers in the military perform some or all of the following duties:

- Take dictation and make notes of meetings using shorthand or stenotype machines
- Compose letters and memos from dictation notes
- Type letters, memos, and minutes of meetings from shorthand notes or dictating machine recordings
- Maintain appointment schedules and make travel arrangements
- Answer telephones and greet visitors
- Maintain files

Helpful Attributes

Helpful school subjects include shorthand and typing. Helpful attributes include:

- Ability to organize and plan
- Interest in serving others

Training Provided

Job training consists of between 6 and 10 weeks of instruction. Training length varies depending on speciality. Course content typically includes:

- Basic typing and shorthand
- English grammar, spelling, and punctuation
- Filing procedures
- Use of stenotype and stenomask machines
- Preparation of correspondence

Further training occurs on the job and through advanced courses.

Work Environment

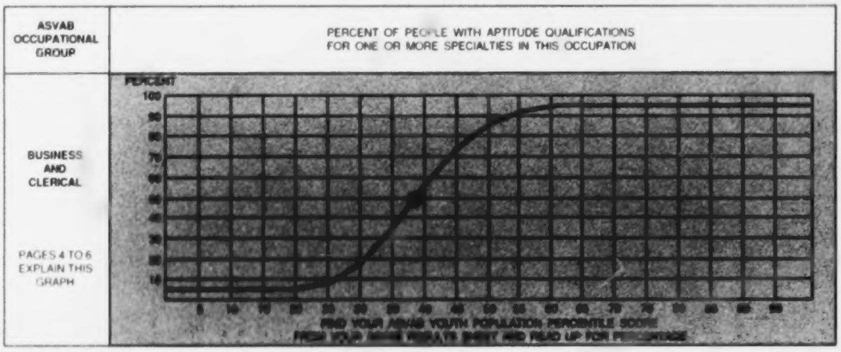
Secretaries and stenographers work in offices on land or aboard ships.

Civilian Counterparts

Civilian secretaries and stenographers work for businesses, government agencies, or legal offices. They perform duties similar to military secretaries and stenographers.

Opportunities

The services have about 2,480 secretaries and stenographers. On average, they need about 240 new secretaries and stenographers each year. After job training, they take dictation and perform office duties under close supervision. With experience, they may become secretaries to high-level officers or supervisors of other secretaries. Eventually, they may become office managers.



SHIPPING AND RECEIVING SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The services ship many tons of supplies and equipment each day. Everything from tanks and missiles to magazines and soft drinks is shipped to bases around the world. Shipping and receiving specialists prepare goods for shipment by land, sea, and air. They also handle goods at the receiving end.

What They Do

Shipping and receiving specialists in the military perform some or all of the following duties:

- Prepare shipping papers for goods to be shipped
- Choose the kind of transport and route
- Calculate shipping costs based on the shipping rates of commercial carriers
- Pack, crate, weigh, and mark goods for shipment
- Load and unload crates, using forklifts, hand trucks, and conveyers
- Inspect goods received for damage
- Check shipping papers and goods received to make sure the correct type and amount of goods were shipped

Physical Demands

Shipping and receiving specialists may need to lift and carry heavy crates. Good eyesight and normal hearing may be required for some specialties.

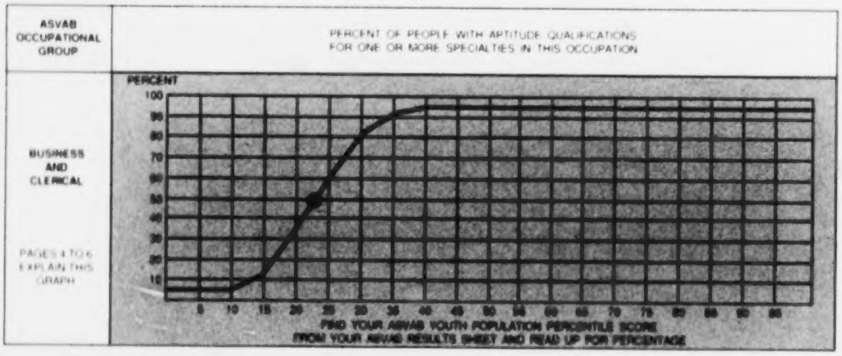
Helpful Attributes

Helpful school subjects include math and typing. Helpful attributes include:

- Interest in operating forklifts and conveyers
- Preference for a combination of physical and office work
- Ability to keep detailed records and operate office equipment

Work Environment

Shipping and receiving specialists in the military work mainly indoors, in supply centers, or in storerooms aboard ship. They may work outdoors when loading or inspecting shipments.



Training Provided

Job training consists of between 3 and 8 weeks of classroom instruction. Course content typically includes:

- Procedures for receiving, packing, and shipping goods
- Procedures for handling and storing food, medicine, ammunition, and other supplies needing special handling
- Record keeping methods
- Operation of forklifts and conveyors

Civilian Counterparts

Civilian shipping and receiving specialists work in business or government warehouses and stockrooms. They perform duties similar to military shipping and receiving specialists. They may also be called shipping and receiving clerks or cargo agents.

Opportunities

The services have about 31,200 shipping and receiving specialists. On average, they need about 4,070 new specialists each year. After job training, specialists prepare shipments under close supervision. With experience, they work more independently and may supervise other specialists. In time, they may become supply or warehouse superintendents.

STOCK AND INVENTORY SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military maintains a large inventory of food, medicines, ammunition, spare parts, and other supplies. Keeping the military's supply system operating smoothly is an important job. The lives of combat troops in the field may depend on receiving the right supplies on time. Stock and inventory specialists receive, store, record, and issue military supplies.

What They Do

Stock and inventory specialists in the military perform some or all of the following duties:

- Locate and catalog stock, usually using microfiche viewers
- Verify the quantity and description of stock received
- Give special handling to medicine, ammunition, and other delicate supplies
- Select the correct stock for issue
- Load, unload, and move stock using equipment such as forklifts and hand trucks
- Keep records on incoming and outgoing stock
- Prepare storage space

Training Provided

Job training consists of between 4 and 6 weeks of classroom instruction, including practice in handling and storing stock. Course content typically includes:

- Stock control and accounting procedures
- Procedures for shipping, receiving, storing, and issuing stock
- Procedures for handling medical and food supplies
- Movement, storage, and maintenance of ammunition

Further training occurs on the job and through advanced courses.

Physical Demands

Stock and inventory specialists may have to lift and carry heavy boxes of ammunition and other supplies.

Work Environment

Stock and inventory specialists work in large general supply centers, small specialized supply rooms, or ship storerooms.

Helpful Attributes

Helpful school subjects include math, bookkeeping, accounting, business administration, and typing. Helpful attributes include:

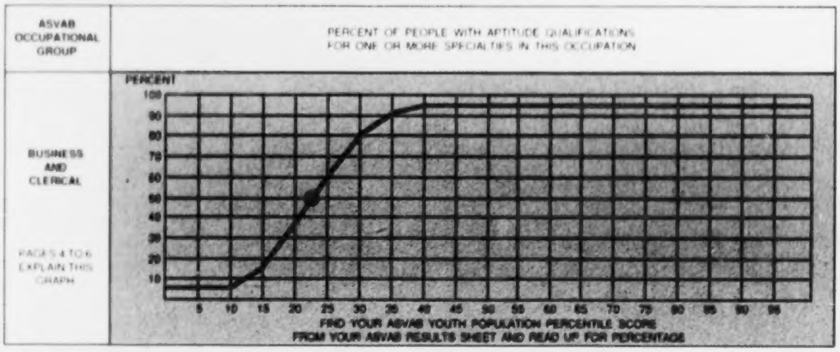
- Ability to keep accurate records
- Preference for physical work
- Interest in operating forklifts and other warehouse equipment

Civilian Counterparts

Civilian stock and inventory specialists work for factories, parts departments in repair shops, department stores, and government warehouses and stockrooms. They perform duties similar to military stock and inventory specialists. Civilian stock and inventory specialists may also be called stock control clerks, parts clerks, or storekeepers.

Opportunities

The services have about 71,100 stock and inventory specialists. On average, they need about 10,000 new specialists each year. After job training, specialists stock shelves, learn about different parts and supplies, and fill supply requests. In time, they also estimate needs, order stock, and supervise others. Eventually, they may become superintendents of supply centers.



TELEPHONE OPERATORS

Army
Navy
Air Force
Marine Corps

The telephone plays a big part in military communications. Portable telephone systems are used by units in the field to send and receive orders. Intercom systems are used aboard ships and in buildings. Telephone operators direct telephone traffic. They relay incoming and outgoing calls through switchboards.

What They Do

Telephone operators in the military perform some or all of the following duties:

- Operate different types of telephone switchboards
- Install and operate switchboards in the field
- Patch long distance calls through local exchanges
- Respond rapidly to emergency calls
- Receive and deliver messages or battle commands
- Maintain switchboard equipment

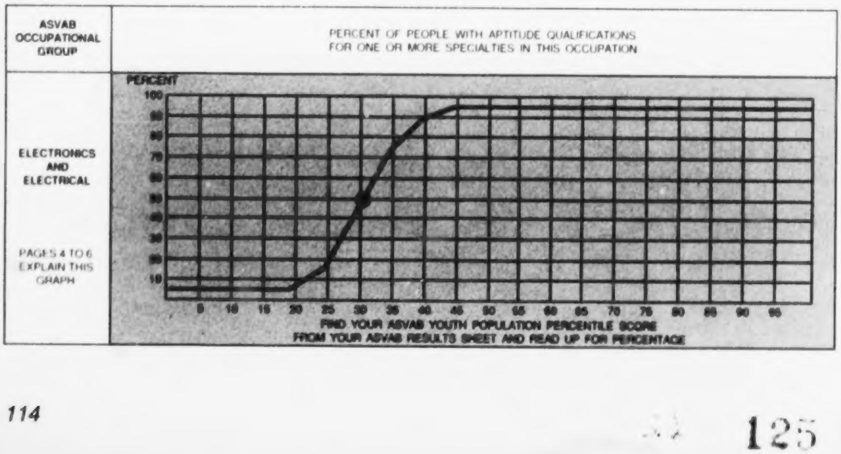
Helpful Attributes

Helpful school subjects include speech and mathematics. Helpful attributes include:

- Interest in working with switchboards
- Patience and courtesy
- Ability to follow spoken instructions

Physical Demands

Normal hearing and the ability to speak clearly are required. Operators must often sit for long periods.



Work Environment

Telephone operators may work indoors or outdoors, depending on specialty. Some work in offices or aboard ships. Others often work in the field, where they install and operate portable switchboards.

Training Provided

Job training consists of between 12 and 22 weeks of instruction, including practice with switchboards. Course content typically includes:

- Proper operation of telephone switchboards
- Procedures for installing field switchboard units

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian telephone operators work for telephone companies, police stations, telephone answering services, and many businesses. They perform duties similar to military telephone operators, but do not install equipment. Civilian operators usually specialize as central office operators, long distance operators, or directory assistance operators. They may also be called PBX operators, switchboard operators, or telephone-answering service operators.

Opportunities

The military has about 10,650 telephone operators. On average, the services need about 1,900 new operators each year. After job training, telephone operators work at switchboards under supervision. With experience, they work more independently and supervise other telephone operators. Eventually, they may manage communications sections.

TELETYPE OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Teletype machines are special typewriters that can send and receive messages over telegraph lines. Teletypes that disguise messages using secret codes are called cryptographic machines. Teletype operators send and receive messages using teletype and cryptographic machines.

What They Do

Teletype operators in the military perform some or all of the following duties:

- Prepare and send messages through teletype and cryptographic machines
- Receive and decode incoming messages, following security procedures
- Stamp messages with the proper security classification: "Secret," "Top Secret," etc.
- Keep logs of messages
- Help install and maintain equipment

Helpful Attributes

Helpful school subjects include typing and English. Helpful attributes include:

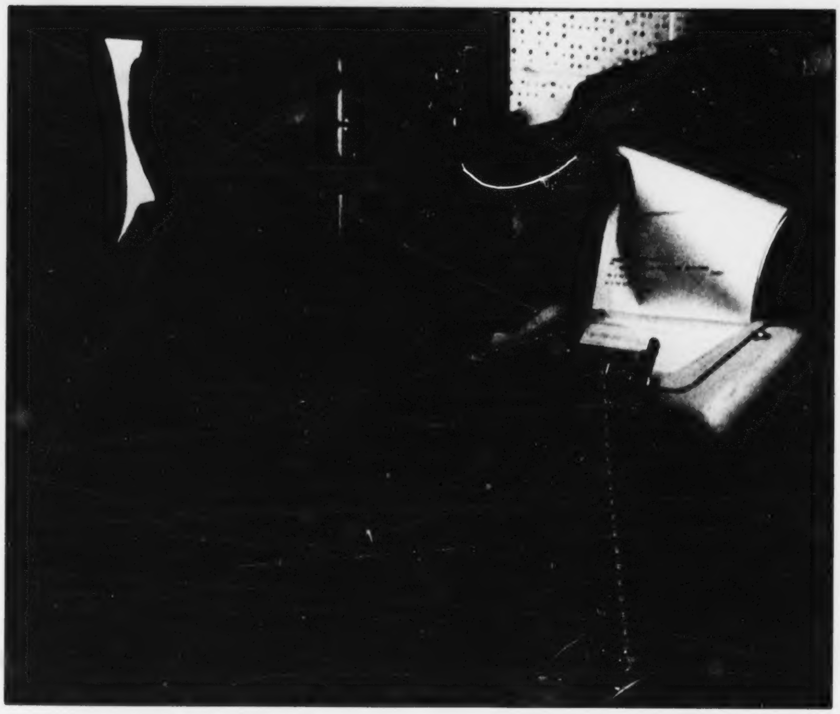
- Interest in operating teletype machines
- Ability to remember and follow specific procedures
- Interest in working with codes

Training Provided

Job training consists of between 9 and 15 weeks of classroom instruction, including practice with teletype machines. Training length varies depending on speciality. Course content typically includes:

- Use and care of teletype and cryptographic equipment
- Keyboard technique
- Procedures for transmitting and receiving secret messages

Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program in this occupation.



Work Environment

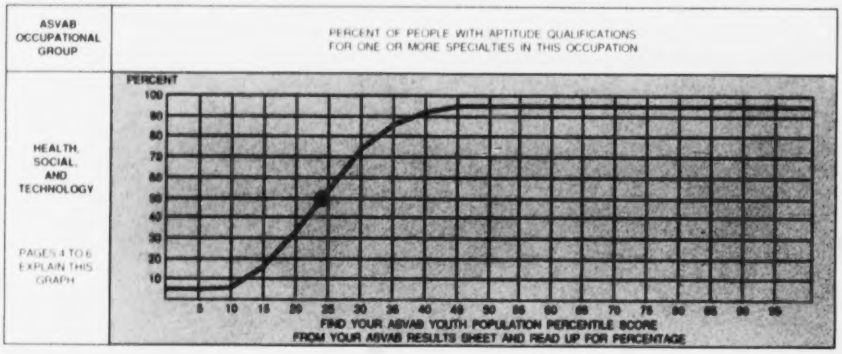
Teletype operators may work indoors in offices. They may also work outdoors in tents with field units.

Civilian Counterparts

Civilian teletype operators work for telegraph companies, businesses, government, and law enforcement agencies. They perform duties similar to military teletype operators, but are less likely to use secret codes.

Opportunities

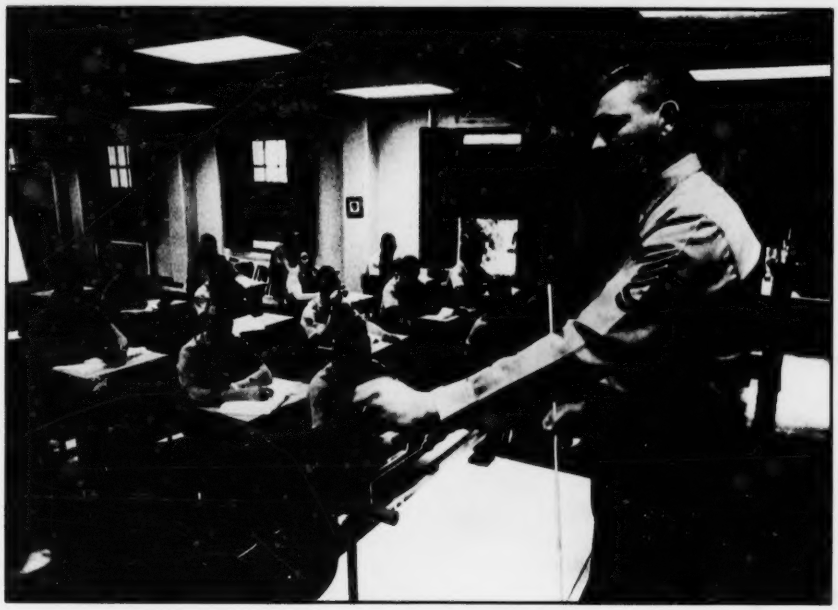
The military has about 28,250 teletype operators. On average, the services need about 5,100 new operators each year. After job training, operators type and file messages under close supervision. With experience, they work more independently, coding and decoding messages. In time, they may become supervisors of communication centers.



TRAINERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military trains new personnel in the job skills needed to begin their careers in the service. The military also offers advanced training and retraining to nearly all personnel. Instruction in electronics, health care, computer sciences, and aviation are just a few of the many vocational and technical areas for which the military has training programs. Trainers teach classes and give demonstrations to provide military personnel with the knowledge needed to perform their jobs.



What They Do

Trainers in the military perform some or all of the following duties:

- Prepare course outlines and materials to present during training
- Select training materials, such as textbooks and films
- Teach classes and give lectures in person, over closed circuit TV, or on videotape
- Work with students individually when necessary
- Test and evaluate student progress

Helpful Attributes

Helpful school subjects include public speaking. Helpful attributes include:

- Interest in teaching
- Ability to communicate effectively, in writing and speaking
- Interest in counseling and promoting human relations

Physical Demands

Trainers must be able to speak clearly and distinctly.

Training Provided

Training consists of between 2 and 14 weeks of classroom instruction, including practice teaching. Length of training varies depending on specialty. Course content typically includes:

- Lesson planning
- Instructional methods
- Communications skills

Work Environment

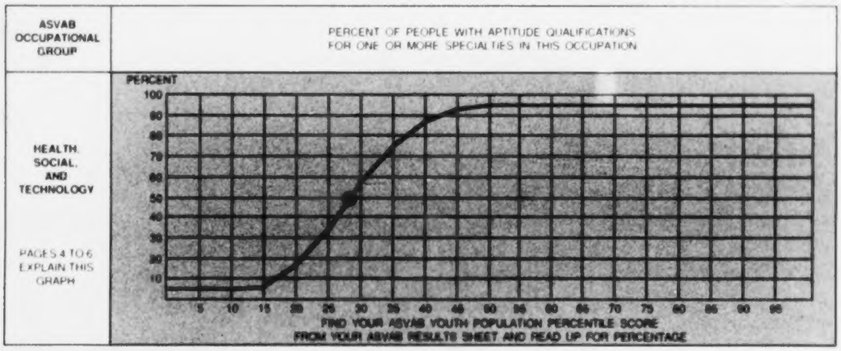
Trainers in the military work either indoors or outdoors, depending on the type of training and specialty area they teach.

Civilian Counterparts

Civilian trainers work for vocational and technical schools, high schools, colleges, businesses, and government agencies. Their duties are similar to those performed by military trainers. Civilian trainers may be called teachers, instructors, or training representatives.

Opportunities

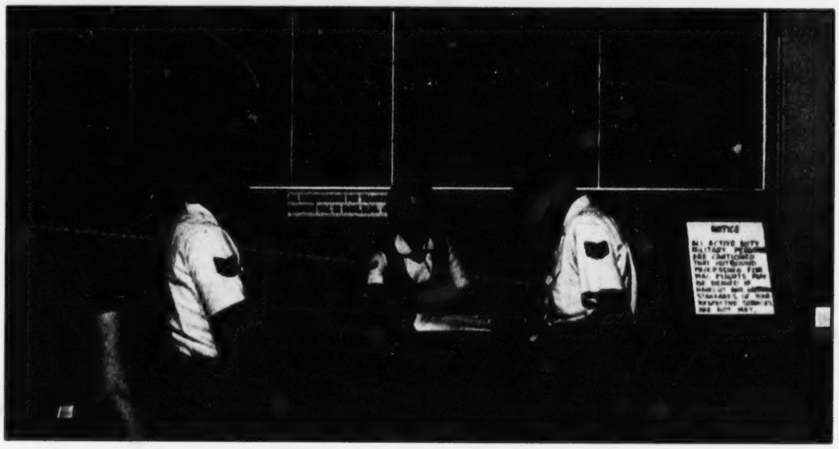
The services have about 20,000 trainers. On average, they need about 4,000 new trainers each year. Because trainers must have an in-depth knowledge of a subject to be effective, only experienced personnel may become trainers. Normally, trainers are selected from those workers in each occupation who are both good in their work and have shown an ability to teach. Often, they divide their time between regular work and training duties.



TRANSPORTATION SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military constantly moves passengers and cargo. Personnel often travel to meetings, training sessions, and new assignments. Supplies and equipment to support troops must be shipped regularly. Transportation specialists plan air, sea, and land transportation for people and cargo. Some assist passenger travel as gate agents and flight attendants.



What They Do

Transportation specialists in the military perform some or all of the following duties:

- Arrange for passenger travel via plane, bus, train, or boat
- Arrange for shipment and delivery of household goods
- Find the least expensive and most direct shipping routes for cargo
- Prepare transportation requests and shipping documents
- Check-in passengers and baggage before boarding military transport flights
- Serve as military airplane flight attendants
- Inspect cargo for proper packing, loading, and marking

Helpful Attributes

Helpful school subjects include mathematics, English, and typing. Helpful attributes include:

- Interest in arranging travel schedules
- Interest in using adding machines, computers, and typewriters
- Interest in serving people

Work Environment

Transportation specialists usually work in offices. They may work outdoors when escorting passengers or processing shipments. Flight attendants work on land and in airplanes.

Training Provided

Job training consists of between 6 and 9 weeks of classroom instruction, including practice in making transportation arrangements. Course content typically includes:

- Planning transportation for personnel and cargo
- Proper cargo handling, shipping, and storing methods
- Analysis of transportation documents

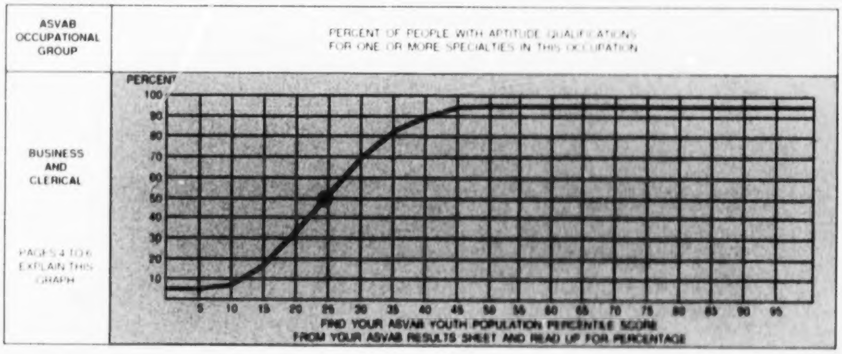
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian transportation specialists work for airlines, shipping firms, and commercial freight lines. They perform duties similar to military transportation specialists. Civilian transportation specialists may also be called travel clerks, reservation clerks, or transportation agents.

Opportunities

The military has about 6,030 transportation specialists. On average, the services need about 800 new specialists each year. After job training, they make travel and shipping arrangements under direct supervision. Some may specialize as flight attendants and gate agents. With experience, they may become supervisors of other transportation specialists. In time, they may manage transportation offices.



Service Occupations

- Barbers
- Corrections Specialists
- Detectives
- Firefighters
- Food Service Specialists
- Military Police

BARBERS

Navy
Coast Guard

The military has a tradition of keeping high standards for physical appearance. This tradition includes personal grooming. For reasons of health, safety, and appearance, the military places special emphasis on hair grooming. Barbers cut, trim, and style hair for military personnel.

What They Do

Barbers in the military perform some or all of the following duties:

- Cut, trim, and style hair
- Shampoo hair
- Color hair with rinse or dye
- Straighten or curl hair using special formulas
- Apply scalp and hair treatments
- Shave military personnel
- Sharpen scissors, blades, and other hair cutting tools

Helpful Attributes

Helpful attributes include:

- Interest in working with people
- Ability to follow instructions closely
- Ability to make precision cuts

Work Environment

Barbers work in barber shops on land and aboard ships and submarines.

Training Provided

Job training consists of between 4 and 6 weeks of classroom instruction, including practice in cutting hair. Course content typically includes:

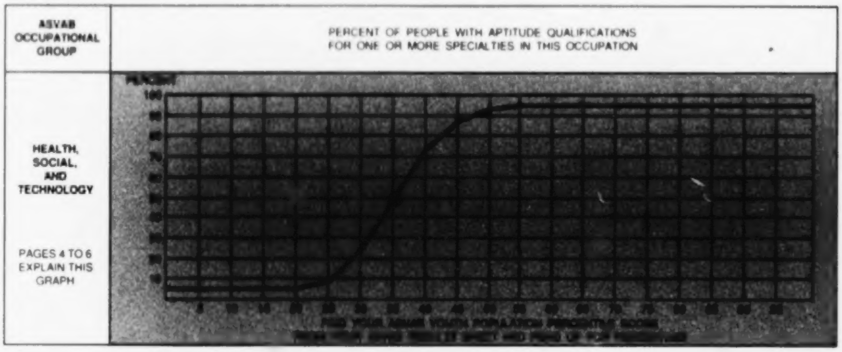
- Barbering techniques
- Sanitation standards
- Maintenance of barbering equipment

Civilian Counterparts

Civilian barbers work for barber shops, hair stylists, or in their own shops. They perform duties similar to military barbers. Civilian barbers may also be known as hair stylists or hair cutters.

Opportunities

The military has about 830 barbers. On average, the services need about 80 new barbers each year. After job training, barbers begin cutting hair under close supervision. With experience, they work more independently. In time, they may have the opportunity to supervise other barbers.



CORRECTIONS SPECIALISTS

Army
Navy
Air Force
Marine Corps

The military operates its own correctional facilities, which are called brigs, stockades, or disciplinary barracks. Personnel who violate military laws may be placed in one of these facilities. Corrections specialists guard inmates in military correctional facilities.

What They Do

Corrections specialists in the military perform some or all of the following duties:

- Stand guard at gates, cellblocks, or on towers
- Search inmates and cells for contraband (illegal goods)
- Search vehicles entering and leaving correctional facilities
- Participate in informal counseling sessions with inmates
- Investigate prisoner disturbances
- Inspect facilities to see if they are clean and safe
- Perform fire and riot control duties

Special Qualifications

Some specialties have minimum age and height requirements.

Helpful Attributes

Helpful attributes include:

- Interest in safeguarding and caring for others
- Ability to remain calm under pressure

Training Provided

Job training consists of between 5 and 10 weeks of classroom instruction including practice in guard techniques. Course content typically includes:

- Prisoner control and discipline procedures
- Ways of searching for contraband
- Inmate counseling techniques
- Procedures for moving prisoners between buildings and facilities
- Proper treatment and care of inmates
- Techniques for inspecting facilities for health and safety hazards

Work Environment

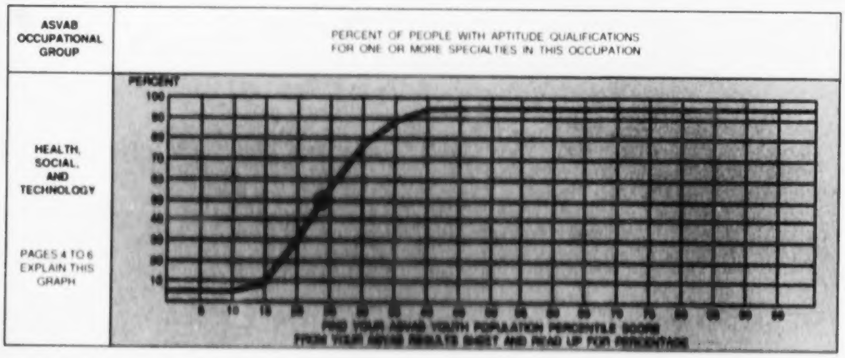
Corrections specialists in the military usually work indoors. They may work outdoors when guarding prisoners in exercise yards.

Civilian Counterparts

Civilian corrections specialists work in city and county jails, federal and state prisons, reformatories, and other correctional facilities. They perform duties similar to military corrections specialists. They may be called guards, correction officers, or deputy guards.

Opportunities

The military has about 2,840 corrections specialists. On average, the services need about 305 new specialists each year. After job training, specialists are assigned to correctional facilities, where they work under the direction of experienced corrections specialists. With experience, corrections specialists may supervise and help train new workers. In time, they may become correction facilities superintendents.



DETECTIVES

Army
Navy
Air Force
Marine Corps
Coast Guard

Military police forces are responsible for conducting criminal investigations. Detectives investigate crimes committed on military property or that involve military personnel. They also conduct investigations to guard against espionage.

What They Do

Detectives in the military perform some or all of the following duties:

- Investigate crimes against country (espionage and treason) and against government property (sabotage)
- Help special agents investigate possible terrorist activities
- Investigate criminal activities (theft, assault, drug selling)
- Interview witnesses and question suspects, sometimes using polygraph (lie detector) machines
- Help with ballistic (bullet movement) and forensic (police lab) studies for clues
- Testify at trials

Helpful Attributes

Helpful school subjects include foreign languages, speech, and government. Helpful attributes include:

- Interest in law enforcement and crime prevention
- Willingness to perform potentially dangerous work

Training Provided

Job training consists of between 10 and 12 weeks of classroom instruction. Course content typically includes:

- Investigation procedures and techniques
- Collection and evaluation of evidence
- Civil and military laws
- Ballistics, fingerprinting, and polygraph techniques

Further training occurs on the job and through advanced courses.

Work Environment

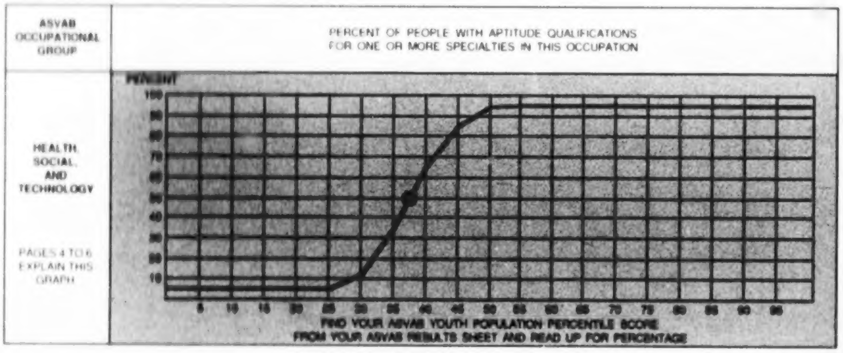
Detectives in the military work mainly indoors, but may work outdoors while conducting investigations.

Civilian Counterparts

Civilian detectives work in federal, state, and local intelligence and law enforcement agencies. Some work as self-employed private detectives. Civilian detectives perform duties similar to military detectives. They may be called plain-clothes officers, homicide detectives, private investigators, or undercover agents.

Opportunities

The services have about 1,900 detectives. On average, they need 190 new detectives each year. After job training, new detectives help more experienced detectives conduct investigations. In time, they may lead investigations and work on more difficult cases. Eventually, detectives may become chiefs of detectives or superintendents of military police operations for bases or ships.



FIREFIGHTERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military bases have their own protection services, including fire departments. Military firefighting units are responsible for protecting lives and property from fire. Firefighters put out, control, and help prevent fires in buildings, aircraft, and aboard ships.

What They Do

Firefighters in the military perform some or all of the following duties:

- Operate pumps, hoses, and extinguishers
- Force entry into aircraft, vehicles, and buildings in order to fight fires and rescue personnel
- Drive firefighting trucks and emergency rescue vehicles
- Give first aid to injured personnel
- Inspect aircraft, buildings, and equipment for fire hazards
- Teach fire protection procedures
- Repair firefighting equipment and fill fire extinguishers

Helpful Attributes

Helpful school subjects include general science. Helpful attributes include:

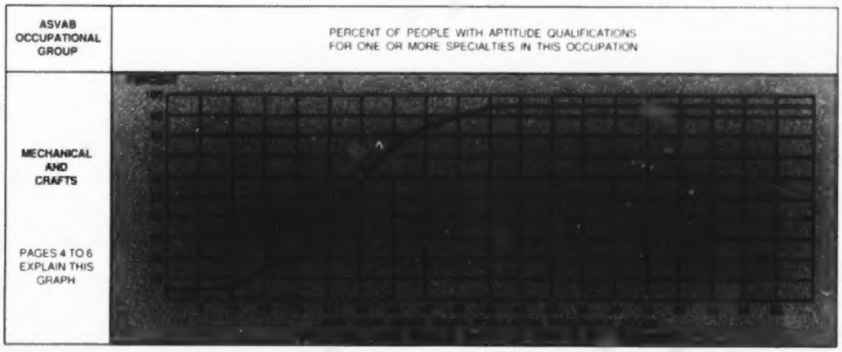
- Ability to remain calm under stress
- Willingness to risk injury to help others
- Ability to think and act decisively

Training Provided

Job training consists of between 7 and 11 weeks of classroom training, including practice in fighting fires. Course content typically includes:

- Types of fires
- Firefighting equipment operations
- Firefighting procedures
- First aid procedures
- Rescue procedures

Further training occurs on the job. The Army offers certified apprenticeship programs for some specialties in this occupation.



Physical Demands

Good vision without glasses and a clear speaking voice are required to enter some specialties in this occupation. Firefighters have to climb ladders and stairs. They must also be able to lift and carry injured personnel.

Work Environment

Firefighters work indoors and outdoors while fighting fires. They are exposed to the smoke, heat, and flames of the fires they fight.

Civilian Counterparts

Civilian firefighters work for city and county fire departments, other government agencies, and industrial firms. They perform duties similar to those performed by military firefighters, including rescue and salvage work.

Opportunities

The services have about 12,120 firefighters. On average, they need about 1,500 new firefighters each year. After training, new firefighters perform work under close supervision. With experience, they work more independently and may supervise others. Eventually, they may become chiefs of base fire departments or similar units.

FOOD SERVICE SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Every day, more than one million meals are prepared in military kitchens. Some kitchens prepare thousands of meals at one time, while others prepare food for small groups of people. Food service specialists prepare all types of food according to standard and dietetic recipes. They also order and inspect food supplies and prepare meats for cooking.

What They Do

Food service specialists in the military perform some or all of the following duties:

- Order, receive, and inspect meat, fish, fruit, and vegetables
- Prepare standard cuts of meat using cleavers, knives, and bandsaws
- Cook steaks, chops, and roasts
- Bake or fry chicken, turkey, and fish
- Prepare gravies and sauces
- Bake breads, cakes, pies, and pastries
- Serve food in dining halls, hospitals, field kitchens, or aboard ship
- Clean ovens, stoves, mixers, pots, and utensils

Physical Demands

Food service specialists may have to lift and carry heavy containers of foodstuffs and large cooking utensils.

Helpful Attributes

Helpful school subjects include home economics, math, accounting, and chemistry. Helpful attributes include:

- Interest in cooking
- Interest in working with the hands

Work Environment

Food service specialists normally work in clean, sanitary kitchens and dining facilities. They may sometimes work in refrigerated meat lockers. Sometimes they work outdoors in tents while preparing and serving food under field conditions.

Training Provided

Job training consists of between 9 and 14 weeks of classroom instruction, including practice in food preparation. Training length varies depending on specialty. Course content typically includes:

- Standard and dietetic menus and recipes
- Preparation and cooking of various foodstuffs and bakery products
- Food and supply ordering
- Storage of meats, poultry, and other perishable items

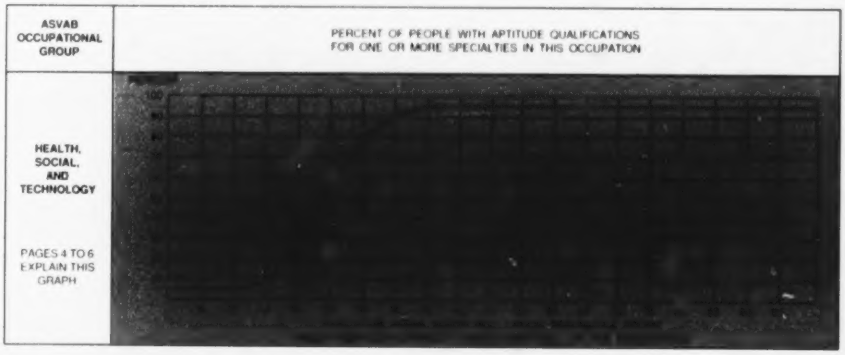
Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian food service specialists work in cafes, restaurants, and cafeterias. They also work in hotels, hospitals, manufacturing plants, schools, and other organizations that have their own dining facilities. Depending on specialty, food service specialists are called cooks, chefs, bakers, butchers, or meat cutters.

Opportunities

The services have about 44,890 food service specialists. On average they need about 7,500 new specialists each year. After job training, food service specialists help prepare and serve food under close supervision. Some food service specialists specialize as bakers, cooks, butchers, or meat cutters. With experience, they work more independently and may train new food service specialists. Eventually, they may become head cooks, chefs, or food service supervisors.



MILITARY POLICE

Army
Navy
Air Force
Marine Corps
Coast Guard

The services have their own police forces for many of the same reasons that civilians do: to control traffic, prevent crime, and respond to emergencies. Military police protect lives and property on military bases by enforcing military laws and regulations.

What They Do

Military police perform some or all of the following duties:

- Patrol areas on foot, by car, or by boat
- Interview witnesses, victims, and suspects in the course of investigating crimes
- Collect fingerprints and other evidence
- Arrest and charge criminal suspects
- Train and walk with police dogs
- Testify in court
- Guard entrances and direct traffic

Helpful Attributes

Helpful school subjects include government and speech. Helpful attributes include:

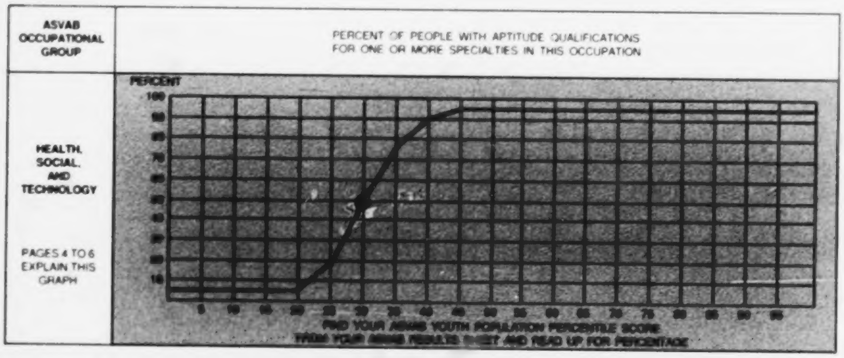
- Interest in law enforcement and crime prevention
- Ability to remain calm in stressful situations
- Marksmanship
- Ability to think and react quickly

Training Provided

Occupational training consists of between 8 and 12 weeks of classroom instruction, including practice in police methods. Course content typically includes:

- Military and civil laws and jurisdiction
- Crime and accident investigation procedures
- Evidence collection procedures, including fingerprinting and suspect questioning
- Use of firearms
- Traffic and crowd control procedures
- Arrest and restraint of suspects
- Hand-to-hand defense techniques (judo, karate, etc.)

Further training occurs on the job and through advanced courses.



Work Environment

Military police work both indoors and outdoors. They may work on foot, in cars, or in boats.

Physical Demands

Normal hearing and a clear speaking voice are usually required to enter this occupation. Some specialties have minimum height requirements.

Civilian Counterparts

Civilian police officers generally work for state, county, or city law enforcement agencies. Some work as security guards for industrial firms, airports, and other businesses and institutions. They perform duties similar to military police.

Opportunities

The military has about 68,400 military police. On average, the services need about 14,620 new military police each year. After job training, military police patrol, guard bases, and direct traffic. With experience, they question crime suspects and collect evidence. They may also supervise other police officers. In time, they may become station chiefs or police superintendents.

Vehicle and Machinery Mechanic Occupations

- Aircraft Mechanics
- Automobile Mechanics
- Automotive Body Repairers
- Divers
- Engine Mechanics
- Heating and Cooling Mechanics
- Heavy Equipment Mechanics
- Marine Engine Mechanics
- Office Machine Repairers
- Powerhouse Mechanics
- Riggers

AIRCRAFT MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military aircraft fly hundreds of missions each day for transport, patrol, and flight training. They need frequent servicing to remain safe and ready to fly. Aircraft mechanics inspect, service, and repair helicopters and airplanes.

What They Do

Aircraft mechanics in the military perform some or all of the following duties:

- Service and repair helicopter, jet, and propeller aircraft engines
- Inspect and repair aircraft wings, fuselages (bodies), and tail assemblies
- Service and repair aircraft landing gear
- Repair or replace starters, lights, batteries, wiring, and other electrical parts

Helpful Attributes

Helpful school subjects include math and shop mechanics. Helpful attributes include:

- Interest in work involving aircraft
- Interest in engine mechanics
- Ability to use hand and power tools

Training Provided

Job training consists of between 3 and 17 weeks of classroom instruction, including inspection and repair of aircraft engines and equipment. Training length varies depending upon the specialty. Course content typically includes:

- Engine disassembly and repair
- Repair of hydraulic, fuel, and electrical systems
- Repair of aluminum, steel, and fiberglass airframes and coverings

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship training programs for some specialties in this occupation.

Work Environment

Aircraft mechanics work in aircraft hangars and machine shops located on air bases or aboard aircraft carriers.

Civilian Counterparts

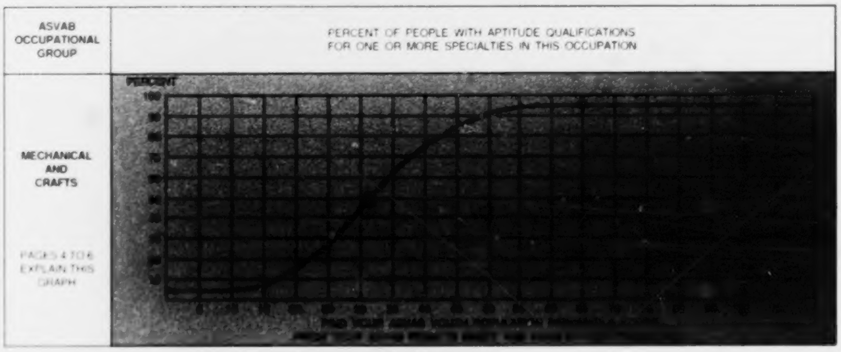
Civilian aircraft mechanics work for aircraft manufacturers, commercial airlines, and government agencies. They perform duties similar to military aircraft mechanics. They may also be called airframe or powerplant mechanics.

Physical Demands

Some specialties require moderate to heavy lifting.

Opportunities

The services have about 147,750 aircraft mechanics. On average, they need about 16,800 new mechanics each year. After job training, mechanics are assigned to an aircraft maintenance unit, where they perform routine maintenance and simple repair jobs. In time, they may perform more difficult repairs and train and supervise new mechanics. Eventually, they may become inspectors, shop supervisors, or maintenance superintendents.



AUTOMOBILE MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Jeeps, autos, and light trucks are used by the military to move troops and supplies. Jeeps fitted with guns and armor plate are also used as attack vehicles. Automobile mechanics maintain and repair automotive vehicles, such as jeeps, cars, and light trucks.

ENGINE PERFORMANCE

What They Do

Automobile mechanics in the military perform some or all of the following duties:

- Troubleshoot problems in vehicle engines, electrical systems, steering, brakes, and suspensions
- Tune and repair engines using engine test equipment
- Replace clutches, brakes, transmissions, and steering assemblies
- Repair auto pollution control equipment
- Replace starters, water pumps, and fuel pumps
- Establish and follow schedules for maintaining vehicles
- Keep records of repairs made and parts used

Work Environment

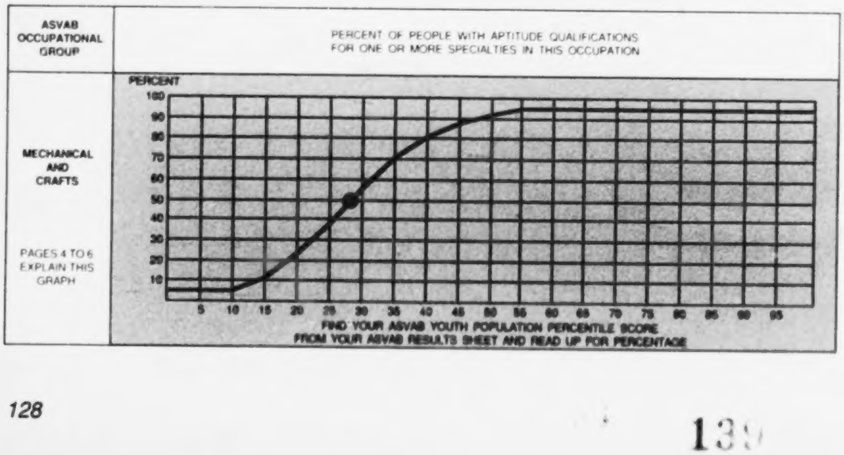
Auto mechanics usually work inside large repair garages. They work outdoors when making repairs in the field.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction, including practice in repairing motor vehicles. Longer training is necessary for some specialties. Course content typically includes:

- Tune-up of diesel and gasoline engines
- Troubleshooting mechanical and electrical problems
- Use of manuals and repair diagrams
- Record keeping

Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.



Helpful Attributes

Helpful school subjects include auto mechanics and industrial arts. Helpful attributes include:

- Preference for physical work
- Interest in troubleshooting mechanical problems
- Interest in automobile engines and how they work

Civilian Counterparts

Civilian automobile mechanics work for service stations, repair garages, and auto dealers. They perform duties similar to military mechanics and may be called carburetor mechanics, transmission mechanics, or radiator mechanics, depending on their specialty.

Opportunities

The services have about 40,050 automobile mechanics. On average, they need about 8,300 new mechanics each year. After job training, automobile mechanics repair vehicles under the direction of supervisors. With experience, they work more independently and are given more challenging repair problems. In time, automobile mechanics may advance to manage motor pools or maintenance units.

AUTOMOTIVE BODY REPAIRERS

Army
Navy
Air Force
Marine Corps

Military vehicles are used to support all types of military operations. They are driven off-road over rocks and rough ground, and they are driven in combat. The hard use they undergo often damages the frames and bodies of these vehicles. Automotive body repairers straighten bent vehicle frames and repair damaged body parts of jeeps, trucks, and autos.

What They Do

Automotive body repairers in the military perform some or all of the following duties:

- Pound out dented panels and fenders using mallets, hammers, and pry bars
- Weld damaged body parts and frames
- Straighten fenders, doors, hoods, and frames to their original shape and position
- Replace damaged body parts, including bumpers, body panels, and radiators
- Refinish bodies using body fillers, primers, and paints
- Cut and install safety glass in windows
- Keep accurate records of parts and supplies used and repairs made

Training Provided

Job training consists of between 11 and 15 weeks of instruction, including practice in auto body repairing and welding. Course content typically includes:

- Repairing and replacing body panels, fenders, and radiators
- Refinishing and painting auto bodies and parts
- Checking and repairing vehicle frame alignment
- Welding body panels, frames, and parts
- Cutting and installing automotive glass

The Army offers certified apprenticeship programs for some specialties in this occupation.

Work Environment

Automotive body repairers work in military auto repair shops and garages.

Physical Demands

Automotive body repairers may have to lift heavy body parts and move heavy tools and equipment. They sometimes have to stoop, kneel, and work in cramped positions.

Helpful Attributes

Helpful school subjects include auto mechanics, auto body repair, and industrial arts. Helpful attributes include:

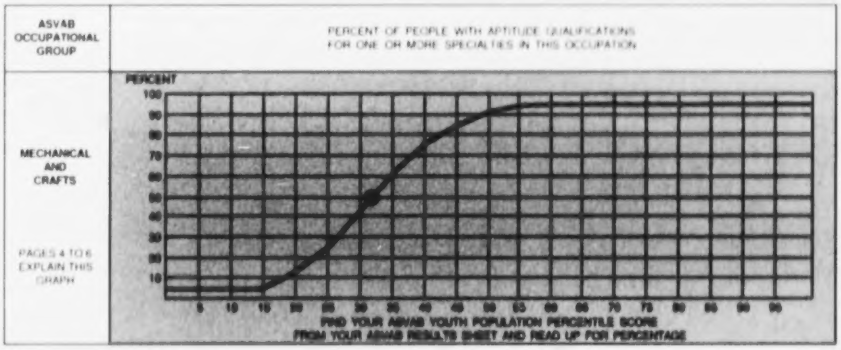
- Preference for doing physical work
- Ability to use hand and power tools
- Interest in working with cars and trucks

Civilian Counterparts

Civilian automotive body repairers work in auto body shops and repair garages. They perform duties similar to military automotive body repairers.

Opportunities

The services have about 1,900 automotive body repairers. On average, they need about 200 new automotive body repairers each year. After job training, they perform work in teams under close supervision. With experience, they work more independently and perform more complicated repairs. In time, they may supervise and help train other automotive body repairers. Career-minded automotive body repairers may advance to manage repair and maintenance departments.



DIVERS

Army
Navy
Marine Corps
Coast Guard

Sometimes, military tasks such as ship repair, construction, and patrolling must be done underwater. Divers in the military perform this work. They usually specialize either as scuba divers, who work just below the surface, or as deep sea divers, who may work for long periods of time in depths up to 300 feet.

What They Do

Divers in the military perform some or all of the following duties:

- Inspect and clean ship propellers and hulls
- Patch damaged ship hulls using underwater welding equipment
- Patrol the waters below ships at anchor
- Salvage (recover) sunken equipment
- Assist with underwater construction of piers and harbor facilities
- Survey rivers, beaches, and harbors for underwater obstacles
- Use explosives to clear underwater obstacles

Physical Demands

Divers must be good swimmers and physically strong.

Special Qualifications

Although there are women divers, some specialties in this occupation are open only to men.

Training Provided

Job training consists of between 5 and 13 weeks of classroom instruction, including practice in diving and repair work. Training length varies depending on specialty. Course content typically includes:

- Principles of scuba diving
- Underwater welding and cutting
- Use and care of hand and power tools
- Maintenance of diving equipment

Further training occurs on the job and through advanced courses.

Helpful Attributes

Helpful school subjects include shop mechanics and building trades. Helpful attributes include:

- Interest in underwater diving
- Ability to stay calm under stress
- A high degree of self-reliance

Work Environment

Divers work underwater. However, they plan and prepare for work on land or aboard ships. Because diving is not usually a full-time job, divers often have another job specialty where they work when there is no underwater work.

Civilian Counterparts

Civilian divers work for oil companies, salvage companies, underwater construction firms, and police or fire rescue units. They perform duties similar to divers in the military.

Opportunities

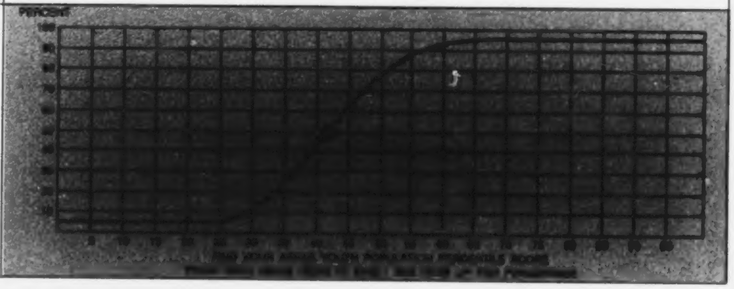
The services have about 3,100 divers. On average, they need about 600 new divers each year. After job training, divers work in teams headed by experienced divers. Eventually, they may become master divers and supervise diving operations.

ASVAB OCCUPATIONAL GROUP

PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION

MECHANICAL AND CRAFTS

PAGES 4 TO 6 EXPLAIN THIS GRAPH



ENGINE MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Keeping the military's fleet of over 50,000 trucks and buses on the road is a demanding job. Hard-driven engines need regular maintenance. Engine breakdowns need prompt repair. Engine mechanics maintain and repair combustion engines. They usually specialize by engine type, such as diesel or gasoline, or by vehicle type, such as truck or bus. They also repair the engines in mobile power generators.

What They Do

Engine mechanics in the military perform some or all of the following duties:

- Troubleshoot engine problems using engine analyzers and other test equipment
- Adjust and repair ignition, fuel, electrical, and steering systems
- Remove engines using hoists and jacks
- Replace pistons, rings, and valves
- Repair and replace clutches and transmissions
- Lubricate engines and other vehicle parts
- Keep records of repairs made and parts used

Physical Demands

Engine mechanics may have to lift heavy engine parts, tools, and equipment.

Helpful Attributes

Helpful school subjects include industrial arts and auto mechanics. Helpful attributes include:

- Interest in finding out why engines do not work and choosing the correct method of repair
- Preference for physical work
- Ability to use hand and power tools
- Ability to accurately interpret charts and diagrams

Civilian Counterparts

Civilian engine mechanics usually work for garages, service stations, construction firms and truck or bus companies. They perform duties similar to military engine mechanics. They are also called truck, bus, and diesel mechanics.

Work Environment

Engine mechanics usually work inside garages. Sometimes, they make emergency repairs in the field or on the roadside.

Training Provided

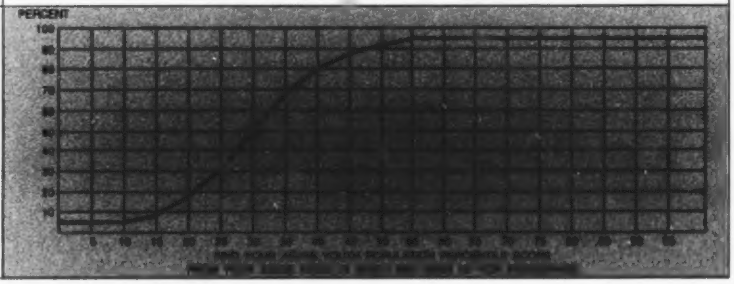
Job training consists of between 7 and 23 weeks of classroom instruction, including practice in repairing engines. Training length varies depending on specialty. Course content typically includes:

- Engine troubleshooting using test equipment
- Disassembly and repair of gasoline and diesel engines
- Maintenance and repair of fuel, electrical, and hydraulic components

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for this occupation.

Opportunities

The military has about 20,900 engine mechanics. On average, the services need about 3,070 new mechanics each year. After job training, new mechanics make simple repairs under the direction of supervisors. With experience, engine mechanics may specialize by type of engine and work with less supervision on more difficult repair tasks. In time, engine mechanics may supervise others or manage repair shops.

ASVAB OCCUPATIONAL GROUP	PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION
MECHANICAL AND CRAFTS PAGES 4 TO 6 EXPLAIN THIS GRAPH	

HEATING AND COOLING MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Air conditioning and heating equipment is used to maintain comfortable temperatures in military buildings, airplanes, and ships. Refrigeration equipment is used to keep food cold and to keep some missile fuels at sub-zero storage temperatures. Heating and cooling mechanics install and repair air conditioning, refrigeration, and heating equipment.

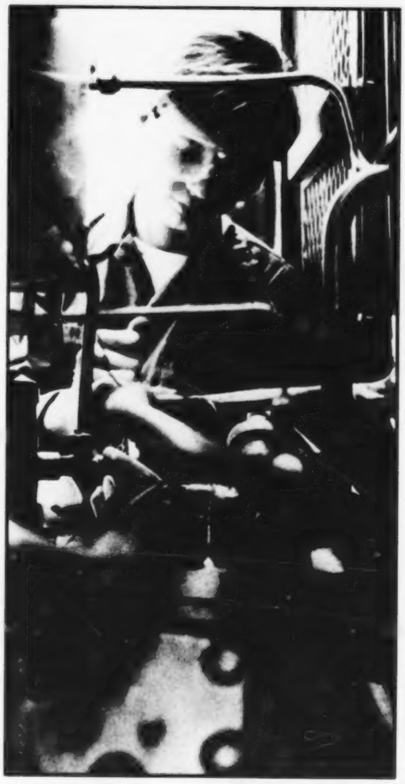
What They Do

Heating and cooling mechanics in the military perform some or all of the following duties:

- Install and repair furnaces, boilers, and air conditioners
- Recharge cooling systems with refrigerant gases
- Install copper tubing systems that circulate water or cooling gases
- Replace compressor parts such as valves, pistons, bearings, and electrical motors on refrigeration units
- Repair thermostats and electrical circuits

Physical Demands

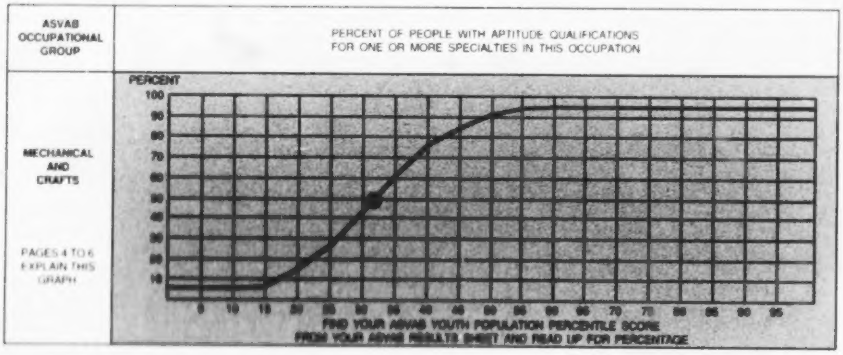
Heating and cooling mechanics may have to lift or move heavy equipment. They are often required to stoop, kneel and work in cramped positions.



Helpful Attributes

Helpful school subjects include science, math, and shop mechanics. Helpful attributes include:

- Ability to use hand and power tools
- Interest in working on machines
- Interest in solving problems



Work Environment

Heating and cooling mechanics may work inside repair shops. Frequently, they work wherever equipment is to be installed or repaired.

Training Provided

Job training consists of between 8 and 22 weeks of classroom instruction, including practice in repair work. Training length varies depending on specialty. Course content typically includes:

- Refrigeration theory
- Installation and repair of refrigeration and air conditioning units
- Installation and repair of furnaces and boilers
- Use of diagrams and blueprints

Additional training is available on the job and in advanced courses. The Army and Marine Corps offer certified apprenticeship programs in this occupation.

Civilian Counterparts

Civilian heating and cooling mechanics work for contractors that install home furnaces and air conditioners or for firms that repair refrigerators and freezers in homes, grocery stores, factories, and warehouses. Heating and cooling mechanics in civilian life often specialize more than those in the military. They may be called heating, air conditioning, refrigeration, or climate control mechanics.

Opportunities

The military has about 10,740 heating and cooling mechanics. On average, the services need about 1,000 new mechanics each year. After job training, mechanics maintain and repair equipment under supervision. With experience, they may learn to diagnose mechanical problems and perform complicated repairs. Eventually, they may become superintendents of utilities for large bases.

HEAVY EQUIPMENT MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Keeping heavy equipment in good working condition is vital to the success of military missions. Breakdowns in construction equipment can delay airfield and road building. Stalled combat vehicles can weaken defense forces. Heavy equipment mechanics repair bulldozers, power shovels, and other construction equipment. They also repair tanks, self-propelled missile launchers, and other combat vehicles.

What They Do

Heavy equipment mechanics in the military perform some or all of the following duties:

- Locate engine problems, using test equipment
- Place engines and transmissions in bulldozers and other heavy equipment using hoists and jacks
- Adjust or replace engine and transmission parts using power and hand tools
- Repair brake, steering, and electrical systems
- Inspect bearings, gears, and other parts for wear
- Replace or repair hydraulic arms or shovels and grader blades
- Repair tank turrets

Training Provided

Job training consists of between 8 and 29 weeks of classroom instruction, including practice repairing heavy equipment. Training length varies depending on speciality. Course content typically includes:

- Engine disassembly and repair
- Maintenance and repair of steering, brake, hydraulic, and suspension systems
- Adjustment and repair of fuel systems

Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs in this occupation.

Helpful Attributes

Helpful school subjects include auto mechanics and industrial arts. Helpful attributes include:

- Preference for doing physical work
- Interest in locating and repairing mechanical problems
- Interest in working with repair tools

Physical Demands

Heavy equipment mechanics may have to lift heavy parts and tools.

Special Qualifications

Although some women are heavy equipment mechanics, some specialties in this occupation are open only to men.

Work Environment

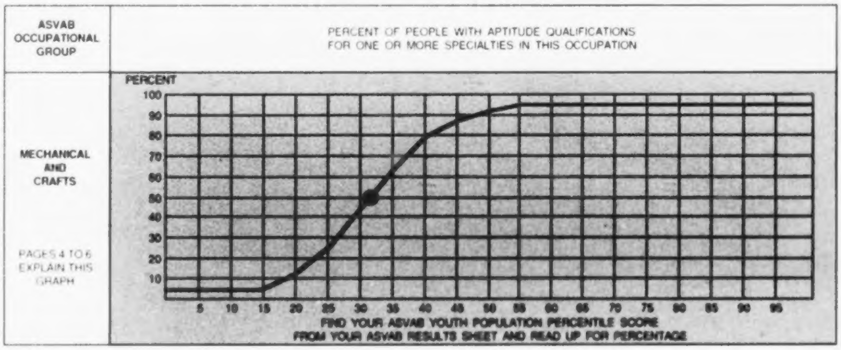
Heavy equipment mechanics usually work in repair shops. They may work outdoors when making emergency repairs on heavy equipment.

Civilian Counterparts

Civilian heavy equipment mechanics work for construction equipment dealers, farm equipment companies, and state highway agencies. They perform duties similar to military heavy equipment mechanics. They may also be known as construction equipment mechanics and endless track vehicle mechanics.

Opportunities

The military has about 12,900 heavy equipment mechanics. On average, the services need about 2,390 new mechanics each year. After job training, mechanics begin repairing equipment under the direction of a supervisor. With experience, heavy equipment mechanics work more independently and perform more challenging tasks. In time, they have the opportunity to supervise other workers and possibly manage repair shops.



MARINE ENGINE MECHANICS

Army
Navy
Air Force
Coast Guard

The military operates many types of watercraft from small motor launches to large ships. Many of these vessels are powered by gasoline or diesel engines. Marine engine mechanics repair and maintain gasoline and diesel engines on ships, boats, and other watercraft. They also repair shipboard mechanical and electrical equipment.

What They Do

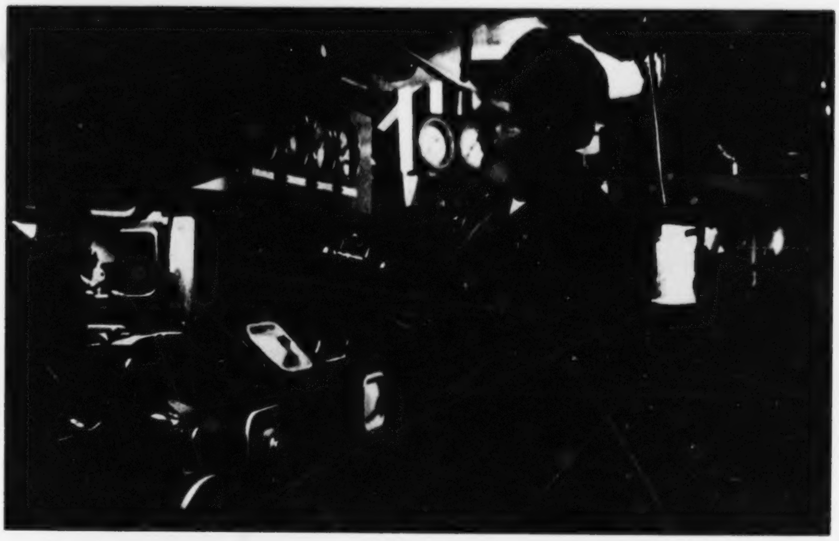
Marine engine mechanics in the military perform some or all of the following duties:

- Repair and maintain shipboard gasoline and diesel engines
- Locate and repair machinery parts, including valves and piping systems
- Repair ship propulsion machinery
- Repair and service hoisting machinery and ship elevators
- Repair refrigeration and air conditioning equipment on ships
- Repair engine-related electrical systems

Helpful Attributes

Helpful school subjects include shop mechanics. Helpful attributes include:

- Interest in fixing engines and machinery
- Ability to use hand and power tools
- Preference for doing physical work

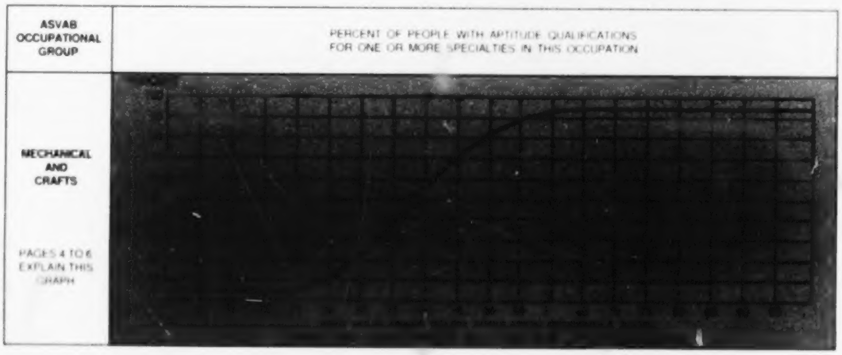


Training Provided

Job training consists of between 9 and 24 weeks of classroom instruction, including practice in marine engine maintenance and repair. Training length varies depending on specialty. Course content typically includes:

- Internal combustion engine theory
- Repair of shipboard electronic and electrical machinery systems
- Service and repair of fuel injection systems
- Use and care of hand and power tools

Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.



Work Environment

Marine engine mechanics work aboard ships, normally in the engine or power rooms. Sometimes they work in repair centers on land bases. Working conditions in engine rooms tend to be noisy and hot.

Civilian Counterparts

Civilian marine engine mechanics work in many industries, including marine transportation, commercial fishing, and oil exploration and drilling. They perform duties similar to military marine engine mechanics.

Opportunities

The military has about 12,800 marine engine mechanics. On average, the services need about 1,500 new mechanics each year. After job training, they work under close supervision in repair centers or shipboard engine rooms. With experience, they work more independently and may supervise other mechanics. In time, marine engine mechanics may become supervisors of marine engine repair centers or shipboard maintenance sections.

OFFICE MACHINE REPAIRERS

Army
Navy
Marine Corps

The military uses many kinds of office and business machines, including typewriters, calculators, photocopiers, and key punch machines. Office machine repairers keep office and business machines in good working order.

What They Do

Office machine repairers in the military perform some or all of the following duties:

- Inspect and test office equipment to determine if repairs are needed
- Read diagrams and charts to determine repair steps
- Adjust relays, circuits, and other machine components
- Replace burned-out motors
- Clean and maintain office machines to help prevent breakdowns

Helpful Attributes

Helpful school subjects include math and shop mechanics. Helpful attributes include:

- Interest in working with machines
- Interest in solving problems
- Ability to use hand tools and test equipment

Training Provided

Job training consists of between 12 and 22 weeks of classroom instruction, including practice repairing office machines. Training length varies depending on specialty. Course content typically includes:

- Maintenance and repair of typewriters, calculating machines, and duplicating machines
- Maintenance and repair of keypunchers and other peripheral computer equiprnent

Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

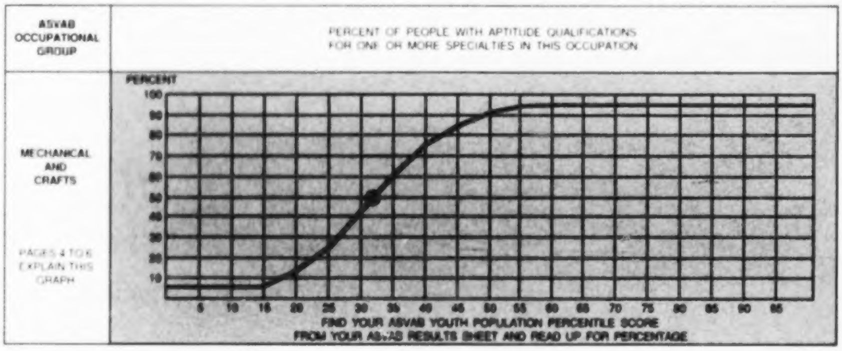
Office machine repairers in the military usually work indoors. They may repair equipment on site or remove it to a repair shop. Some office machine repairers work aboard ships.

Civilian Counterparts

Civilian office machine repairers work for manufacturers or distributors of office machines and for some large users of office machines. They perform duties similar to military office machine repairers. They may also be called office machine servicers, business machine mechanics, or typewriter servicers, depending on their specialty.

Opportunities

The military has about 610 office machine repairers. On average, they need about 60 new office machine repairers each year. After job training, office machine repairers perform routine maintenance and make simple repairs to machines. With experience, they perform more difficult repairs. In time, they may become supervisors of repair shops.



POWERHOUSE MECHANICS

Army
Navy
Air Force
Coast Guard

Power generating stations (powerhouses) provide electric power for military bases, ships, and field camps. There are many types of powerhouses from small gas generators to large nuclear reactors. Powerhouse mechanics install, maintain, and repair electrical and mechanical equipment in power generating stations.

What They Do

Powerhouse mechanics in the military perform some or all of the following duties:

- Install generating equipment, such as gasoline and diesel engines, turbines, and air compressors
- Repair and maintain nuclear power plants
- Inspect and service pumps, generators, batteries, and cables
- Tune engines using hand tools, timing lights, and combustion pressure gauges
- Diagnose (troubleshoot) engine and electrical system problems
- Replace damaged parts such as fuel injectors, valves, and pistons

Helpful Attributes

Helpful school subjects include shop mechanics and math. Helpful attributes include:

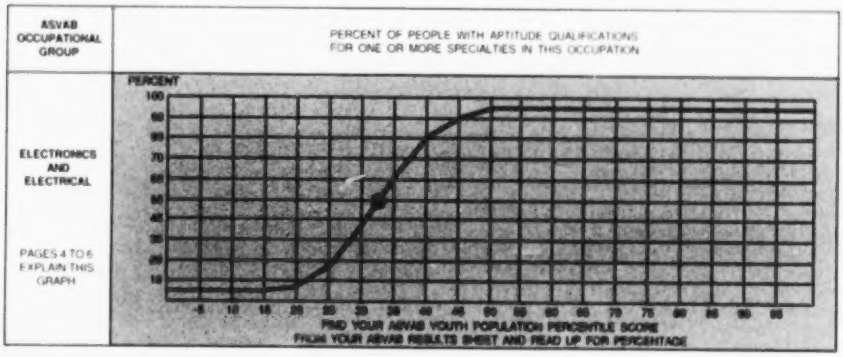
- Interest in repairing machines and equipment
- Preference for doing physical work
- Interest in nuclear power

Physical Demands

Powerhouse mechanics may have to lift and move heavy electrical generators or batteries.

Special Qualifications

Algebra course work is a requirement for nuclear power plant specialties. Nuclear specialties are open only to men.



Work Environment

Powerhouse mechanics work in equipment repair shops, power plant stations, or power generating rooms aboard ships. Sometimes they work outdoors while repairing substation generating equipment.

Training Provided

Job training for non-nuclear specialties consists of between 12 and 24 weeks of classroom instruction, including practice in repairing power generating equipment. Training length varies depending on the specialty. Course content typically includes:

- Principles of electricity
- Gas and diesel engine theories
- Hydraulic (fluid pressure) and pneumatic (air pressure) system maintenance
- Instrumentation of power generating systems

Nuclear specialties have training programs that last one year or more, covering all aspects of nuclear power plant operations. Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program for this occupation.

Civilian Counterparts

Civilian powerhouse mechanics work for a wide variety of employers, such as utility and power companies, manufacturing companies, and others that operate their own power plants. They perform duties similar to military powerhouse mechanics.

Opportunities

The services have about 9,820 powerhouse mechanics. On average, they need about 950 mechanics each year. After job training, mechanics are assigned routine tasks maintaining and repairing generating equipment under close supervision. With experience, they perform more complex repair work and operate more independently. In time, they may become powerhouse repair crew supervisors or power plant operations managers.

RIGGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Hoisting devices are used to load and unload ship cargo, such as heavy machinery and supplies. They are also used to move construction materials at job sites. Riggers assemble hoisting devices such as cranes, pulleys, and block and tackle.

What They Do

Riggers in the military perform some or all of the following duties:

- Splice wire and rope cables to make slings and block and tackle devices
- Assemble rigging devices such as cranes and winches
- Select the correct cables, ropes, pulleys, and winches for the size and weight of loads
- Attach grappling devices (for holding cargo) to cranes or winches
- Give hoisting directions to crane and winch operators
- Guide cargo being moved using guide ropes

Helpful Attributes

Helpful attributes include:

- Ability to work closely with others as a member of a team
- Attention to safety requirements
- Preference for doing physical work

Training Provided

Job training consists of between 7 and 12 weeks of classroom instruction, including practice in assembling and using hoisting devices. Course content typically includes:

- Use of rigging devices
- Methods for splicing ropes and cables
- Procedures for assembling hoisting equipment

Further training occurs on the job. The Army offers a certified apprenticeship program for this occupation.

Physical Demands

Riggers need strength and endurance to work with heavy equipment and material.

Civilian Counterparts

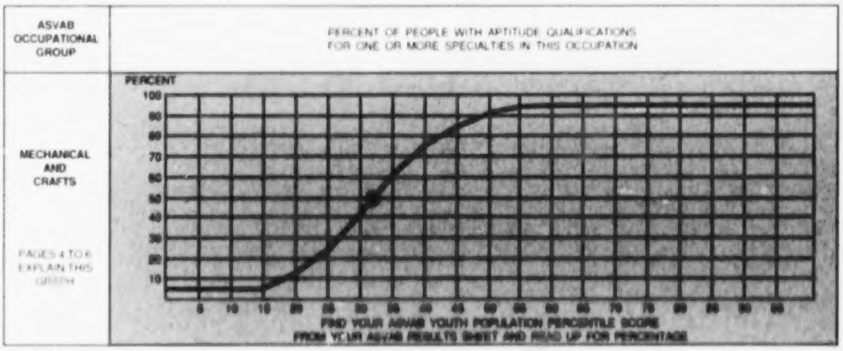
Civilian riggers work in shipyards and dockyards. They also work for large construction companies and cargo and pleasure cruise shiplines. Civilian riggers perform duties similar to military riggers. They may also be called crane riggers, hook tenders, slingers, and yard riggers.

Work Environment

Riggers work inside ships, on docks, and at construction sites.

Opportunities

The services have about 4,710 riggers. On average, they need about 570 new riggers each year. After job training, riggers work under the direction of experienced supervisors. With experience, they may supervise other riggers. In time, they may become superintendents of warehouses or dockyards.



Electronic and Electrical Equipment Repair Occupations

- Aircraft Electricians
- Data Processing Equipm[illegible]airers
- Electrical Products Repairers
- Electronic Instrument Repairers
- Electronic Weapons Systems Repairers
- Line Installers and Repairers
- Ordnance Mechanics
- Photographic Equipment Repairers
- Power Plant Electricians
- Precision Instrument Repairers
- Radar and Sonar Equipment Repairers
- Radio Equipment Repairers
- Ship Electricians
- Telephone Technicians
- Teletype Repairers

AIRCRAFT ELECTRICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

Airplanes and helicopters have complex electrical systems. Instruments, lights, weapons, ignition systems, landing gear, and many other aircraft parts are powered by electricity. Aircraft electricians maintain and repair electrical systems on airplanes and helicopters.

What They Do

Aircraft electricians in the military perform some or all of the following duties:

- Troubleshoot (find problems in) aircraft electrical systems using test equipment
- Repair or replace defective generators and electric motors
- Inspect and maintain electrical systems
- Replace faulty wiring
- Solder electrical connections
- Repair or replace instruments, such as tachometers, temperature gauges, and altimeters
- Read electrical wiring diagrams

Work Environment

Aircraft electricians usually work indoors, in aircraft hangars, airplanes, and repair shops. They may also work on aircraft parked outdoors.

Training Provided

Job training consists of between 18 and 25 weeks of classroom instruction, including practice in repairing electrical systems. Training length varies depending on specialty. Course content typically includes:

- Electrical theory
- Troubleshooting procedures
- Soldering techniques
- Electrical system maintenance

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for many specialties in this occupation.

RESCUE
AIR FORCE

Helpful Attributes

Helpful school courses include math and shop mechanics. Helpful attributes include:

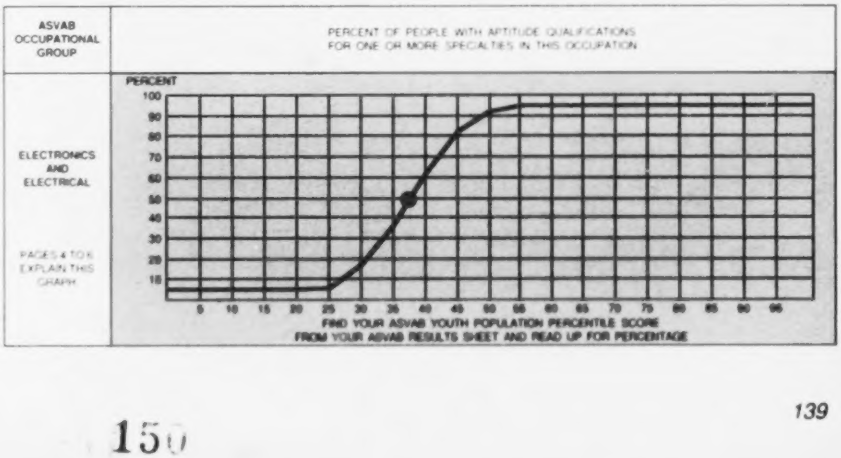
- Interest in solving problems
- Interest in electricity and how electrical equipment works
- Ability to work with tools

Civilian Counterparts

Civilian aircraft electricians work mainly for airlines and aircraft maintenance firms. They may also work for aircraft manufacturers and other organizations that have fleets of airplanes or helicopters. Their duties are similar to those of military aircraft electricians.

Opportunities

The military has about 10,000 aircraft electricians. On average, the services need about 1,000 new aircraft electricians each year. After job training, aircraft electricians perform maintenance and routine repairs under close supervision. With experience, they are assigned more complicated troubleshooting and repairs and may supervise other electricians. In time, they may become supervisors of aircraft maintenance shops.



DATA PROCESSING EQUIPMENT REPAIRERS

Army
Navy
Air Force
Marine Corps

The military relies on computers to support weapon systems, communications, and administration. Keeping systems "up" is crucial for all military operations. Data processing equipment repairers install, test, maintain, and repair computers and related data processing equipment.

What They Do

Data processing equipment repairers in the military perform some or all of the following duties:

- Install computers and other data processing equipment
- Inspect data processing equipment for defects in wiring, circuit boards, and other parts
- Test and repair data processing equipment using electrical voltage meters, circuit analyzers, and other special testing equipment
- Locate defective data processing parts using technical guides and diagrams

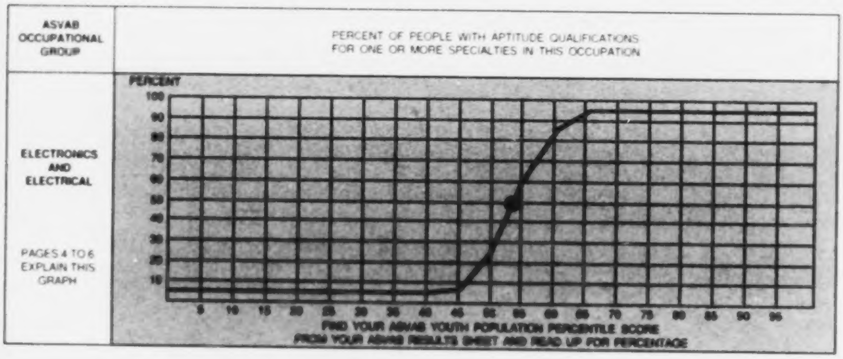
Helpful Attributes

Helpful school subjects include math and electronic equipment repair. Helpful attributes include:

- Interest in working with electrical and electronic equipment
- Interest in solving problems

Physical Demands

Specialties that involve flying require passing a special physical exam.



Work Environment

Data processing equipment repairers usually work indoors in repair shops or data processing centers on land or aboard ships. Some specialties involve flying.

Training Provided

Job training consists of between 25 and 35 weeks of classroom instruction, including practice in repairing computer equipment. Course content typically includes:

- Electronic principles and concepts
- Operation of various computer systems and equipment
- Use of test equipment
- Repair of data processing equipment

The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian data processing equipment repairers work for computer manufacturers, repair services, and other businesses with large computer facilities. They perform duties similar to military data processing equipment repairers. They may also be called computer service technicians.

Opportunities

The services have about 9,030 data processing equipment repairers. On average, they need about 870 new equipment repairers each year. After job training, repairers are assigned to maintenance units or data processing centers. They perform routine maintenance and simple repair jobs under close supervision. In time, they may perform more difficult repairs and supervise and help train other repair personnel. Eventually, they may become supervisors or managers of computer maintenance departments.

ELECTRICAL PRODUCTS REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Much of the military's equipment is electrically powered. Electric motors, electric tools, and medical equipment require careful maintenance and repair. Electrical product repairers maintain and repair electrical equipment. They specialize by type of equipment.

What They Do

Electrical products repairers in the military perform some or all of the following duties:

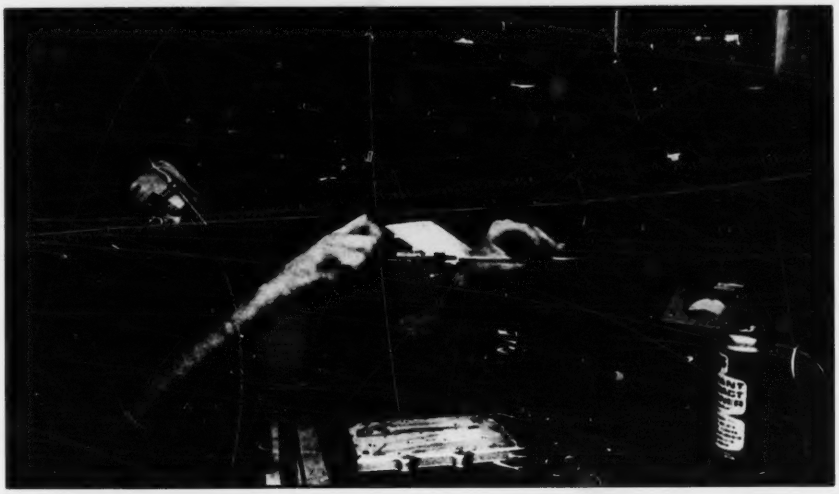
- Maintain, test, and repair electric motors in many kinds of machines, such as lathes, pumps, office machines, and kitchen appliances
- Inspect and repair electrical, medical, and dental equipment
- Inspect and repair electric instruments, such as voltmeters
- Replace worn gaskets and seals in watertight electrical equipment.
- Maintain and repair portable electric tools, such as saws and drills
- Maintain and repair submarine periscopes

Training Provided

Job training consists of between 4 and 22 weeks of classroom instruction, including practice in repairing electrical products. Training length varies depending on specialty. Course content typically includes:

- Maintenance and repair procedures
- Use of electrical test equipment

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.



Work Environment

Electrical products repairers usually work in repair shops on land or aboard ships.

Civilian Counterparts

Civilian electrical products repairers work in many industries, including hospitals, manufacturing firms, and governmental agencies. They also work in independent repair shops. They perform duties similar to military electrical products repairers. They may be called electric tool repairers, electrical instrument repairers, electromedical equipment repairers, or electric motor repairers.

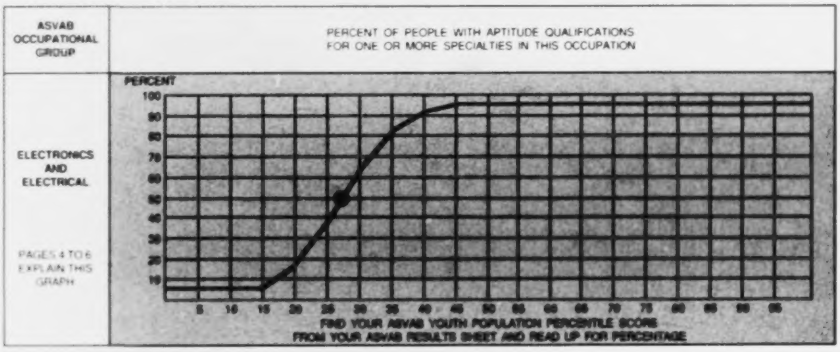
Helpful Attributes

Helpful school subjects include math, electricity, and shop mechanics. Helpful attributes include:

- Ability to use tools
- Interest in electric motors and appliances
- Interest in solving problems

Opportunities

The military has about 9,230 electrical products repairers. On average, the services need about 930 new repairers each year. After job training, they normally make simple repairs under the direction of more experienced workers. With experience, they perform more complicated repairs. In time, repairers may become electrical repair shop supervisors.



ELECTRONIC INSTRUMENT REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses electronic instruments in many areas, including health care, weather forecasting, flight control, and combat, to name but a few. Electronic instrument repairers maintain and repair electronic instruments, such as precision measuring equipment, navigational controls, photographic equipment, and biomedical instruments. Electronic instrument repairers normally specialize by type of equipment or instrument being repaired.

What They Do

Electronic instrument repairers in the military perform some or all of the following duties:

- Test meteorological and medical instruments, navigational controls, and simulators using electronic and electrical test equipment
- Read technical diagrams and manuals in order to locate, isolate, and repair instrument parts
- Replace equipment parts such as resistors, switches, and circuit boards

Helpful Attributes

Helpful school subjects include math and electronic equipment repair. Helpful attributes include:

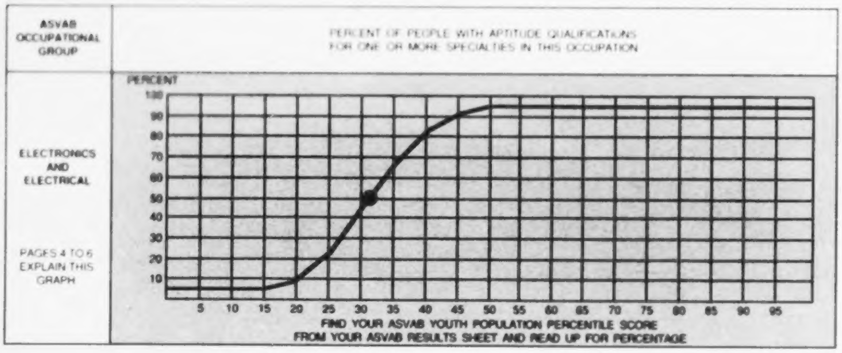
- Interest in working with electronic equipment
- Interest in solving problems

Training Provided

Job training consists of between 15 and 30 weeks of classroom instruction, including practice in repairing and replacing equipment parts. Training length varies depending on specialty. Course content typically includes:

- Principles of electronics
- Use and maintenance of electrical and electronic test equipment
- Equipment repair exercises

The Army offers certified apprenticeship programs for some specialties in this occupation.



Work Environment

Electronic instrument repairers usually work in repair shops and laboratories.

Civilian Counterparts

Most civilian electronic instrument repairers work for manufacturing, medical research, satellite communications firms, or commercial airlines. They may also work for government agencies, such as the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), or the National Weather Service. They perform the same kind of duties as military instrument repairers. They are called electronics mechanics, dental equipment repairers, or biomedical equipment technicians, depending on their specialty.

Opportunities

The services have about 20,800 electronic instrument repairers. On average, they need about 2,080 new repairers each year. After job training, they are assigned to an operations or equipment maintenance unit. They perform routine maintenance and simple repair jobs. In time, they may perform more difficult repairs and supervise other repair personnel. Eventually, they may become supervisors or managers of electronic equipment maintenance units.

ELECTRONIC WEAPONS SYSTEMS REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Most modern military weapons systems have electronic parts. From large ballistic missiles to small field artillery, electronics are used to locate targets, aim weapons, and fire them. Electronic weapons systems repairers maintain and repair electronic and electro-optical weapons systems fired from ships, planes, and ground stations.

What They Do

Electronic weapons systems repairers in the military perform some or all of the following duties:

- Install electronic components (parts) in weapons systems
- Test and adjust weapons firing, guidance, and launch systems using electronic test equipment, calibrators, and other precision instruments
- Maintain electronic weapons systems on a regular schedule
- Repair and maintain missile mounts, platforms, and launch mechanisms using hand and power tools
- Clean and lubricate gyroscopes, sights, and other electro-optical fire control components
- Prepare inspection, maintenance, and other repair reports and logs

Training Provided

Job training consists of between 15 and 30 weeks of classroom instruction and practical experience. Training length varies depending on specialty. Course content typically includes:

- Electronic and mechanical principles and concepts
- Use of electronic, electrical, and mechanical test equipment
- Use of schematics, drawings, blueprints, and wiring diagrams
- Operation, test, and maintenance of specific types of weapons systems

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Physical Demands

Some specialties involve moderate to heavy lifting.

Work Environment

Electronic weapons systems repairers work indoors in workshops when testing and repairing electronic components. They may work outdoors while inspecting and repairing combat vehicles, ships, artillery, aircraft, and missile silos.

Special Qualifications

Although there are women weapons systems repairers, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful school subjects include science and math. Helpful attributes include:

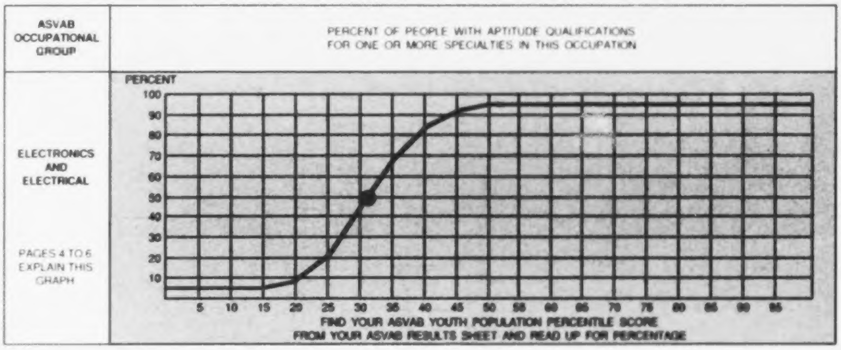
- Interest in working with electronic or electrical equipment
- Ability to do work requiring accuracy and attention to detail

Civilian Counterparts

Civilian electronic weapons systems repairers work for firms that design, build, and test electronic weapons systems for the military. They perform duties similar to military electronic weapons systems repairers. They may also be called electronic mechanics, avionics technicians, or missile facilities repairers.

Opportunities

The services have about 25,280 electronic weapons systems repairers. On average, they need about 3,120 new repairers each year. After job training, they are assigned to electronic weapons operations or maintenance units. They perform routine maintenance and work under close supervision. With experience, they may work more independently and train new personnel. Eventually, they may become managers of missile facilities, avionics, or electronics maintenance units or shops.



LINE INSTALLERS AND REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

When the military sets up a new base it installs its own electrical and phone systems. Electrical cables are installed connecting the power plant to buildings and equipment. Likewise, a network of communications lines is installed to provide the base with a telephone system. Line installers and repairers install, maintain, and repair electrical cables and communication lines.

What They Do

Line installers and repairers in the military perform some or all of the following duties:

- Erect utility poles
- Operate mechanical lifts ("cherry-pickers") or climb poles to attach conductors and insulators
- String overhead communications and electric cables between utility poles
- Install streetlights and airfield lighting systems
- Operate mechanical plows to dig trenches for underground cables
- Splice and seal cables to keep them watertight
- Install and adjust telephone switchboxes, electrical transformers, and voltage regulators

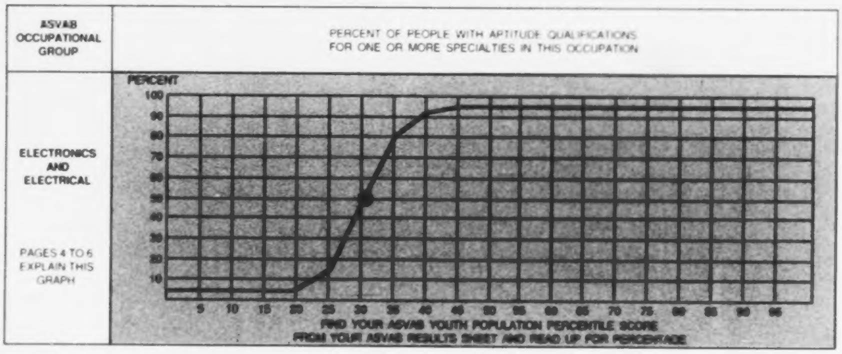
Physical Demands

Line installers and repairers have to climb utility poles and work from heights. They have to lift and work with heavy wires and cables.

Helpful Attributes

Helpful school subjects include math and shop mechanics. Helpful attributes include:

- Ability to work as a member of a team
- Ability to use hand and power tools
- Preference for working outdoors



Work Environment

Line installers and repairers work outdoors in all kinds of weather conditions.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction including practice in line installation and repair. Training length varies depending on specialty. Course content typically includes:

- Installation and repair of electric power and telephone lines
- Use of hand and power tools
- Pole climbing techniques and safety procedures

Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian line installers and repairers work for telephone and power companies. They perform duties similar to military line installers and repairers. They may specialize in certain areas, such as line installing, cable splicing, or cable testing.

Opportunities

The services have about 13,200 line installers and repairers. On average, they need about 1,800 new installers and repairers each year. After job training, workers install and repair lines in teams. With experience, they learn to troubleshoot and perform more difficult repairs. Eventually, they may become construction chiefs or managers of utilities maintenance units.

ORDNANCE MECHANICS

Army
Navy
Air Force
Marine Corps
Coast Guard

Ordnance is a military term for ammunition and weapons. To be effective, weapons must be kept in top working condition. Ammunition must be handled carefully when being moved. Ordnance mechanics keep weapons, ammunition, and related equipment ready for use by combat forces.

What They Do

Ordnance mechanics in the military perform some or all of the following duties:

- Load nuclear and conventional explosives and ammunition on aircraft, ships, and submarines
- Inspect and maintain mounted guns, bomb release systems, and missile launchers
- Repair and maintain tank weapons and fire control systems
- Repair and maintain artillery, naval gun systems, and infantry weapons
- Check the accuracy of radar sighting systems
- Assemble and load explosives
- Defuse unexploded bombs

Training Provided

Job training consists of between 15 and 25 weeks of classroom instruction, including practice in ordnance maintenance and repair. Training length varies depending on specialty. Course content typically includes:

- Maintenance, testing, and repair of aircraft weapons systems
- Maintenance of nuclear weapons
- Maintenance and repair of shoulder-fired weapons, machine guns, mortars, and handguns
- Handling, testing, and maintenance of missiles and rockets
- Operation and maintenance of fire control systems on ships

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs for some specialties in this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in working with explosives
- Ability to remain calm under stress
- Ability to maintain concentration

Work Environment

Ordnance mechanics work both indoors and outdoors. They work in repair shops while assembling explosives and repairing weapons. They work outdoors while repairing equipment in the field and loading weapons on tanks, ships, or aircraft.

Physical Demands

Ordnance mechanics may have to lift and carry artillery shells and other heavy ordnance.

Special Qualifications

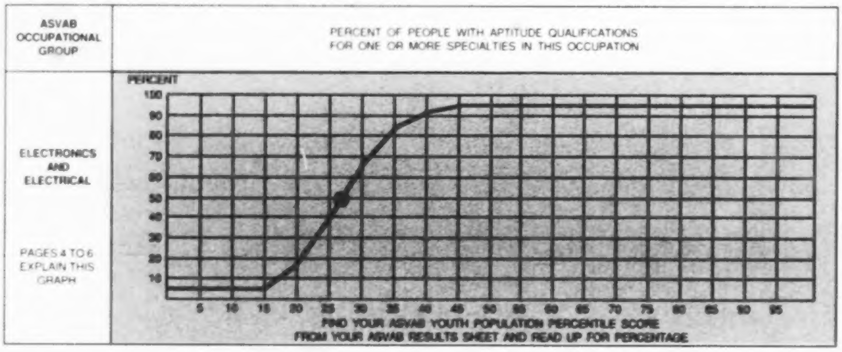
Although there are women ordnance mechanics, some specialties in this occupation are open only to men.

Civilian Counterparts

There are no direct civilian counterparts for many of the military ordnance mechanics specialties. However, there are many occupations which are related. For example, civilians work for government agencies and private industry doing ordnance research and development. Others work for police or fire departments as bomb-disposal experts. Some also work as gunsmiths or work for munitions manufacturers and firearms makers.

Opportunities

The services have about 59,540 ordnance mechanics. On average, they need about 6,700 new ordnance mechanics each year. After job training, ordnance mechanics work under close supervision. With experience, they work more independently and perform more complex duties. In time, they may become trainers or supervisors. Eventually, they may become managers of weapons maintenance units.



PHOTOGRAPHIC EQUIPMENT REPAIRERS

Army
Navy
Air Force
Marine Corps

The photographic equipment used by the military has many sensitive mechanisms. Still cameras, motion picture cameras, and darkroom equipment need regular attention to stay in working order. Photographic equipment repairers adjust and repair military cameras and photoprocessing equipment.

What They Do

Photographic equipment repairers in the military perform some or all of the following duties:

- Adjust and repair camera shutter mechanisms, focus controls, and flash units
- Maintain and repair aerial cameras mounted in airplanes
- Maintain aerial sensors that detect foreign military activities
- Maintain and repair motion picture cameras and sound recording equipment
- Repair photoprocessing equipment such as enlargers, film processors, and printers
- Diagnose problems in all types of cameras

Work Environment

Photographic equipment repairers work in repair shops on land or aboard ships.

Training Provided

Job training consists of between 9 and 32 weeks of classroom instruction including practice in repairing photographic equipment. Training length varies depending on specialty. Course content typically includes:

- Test and repair of still cameras and darkroom equipment
- Maintenance and repair of motion picture cameras, tape recorders, synchronizers, and similar equipment
- Test and repair of aerial sensor equipment

Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for this occupation.

Helpful Attributes

Helpful school subjects include math and science. Helpful attributes include:

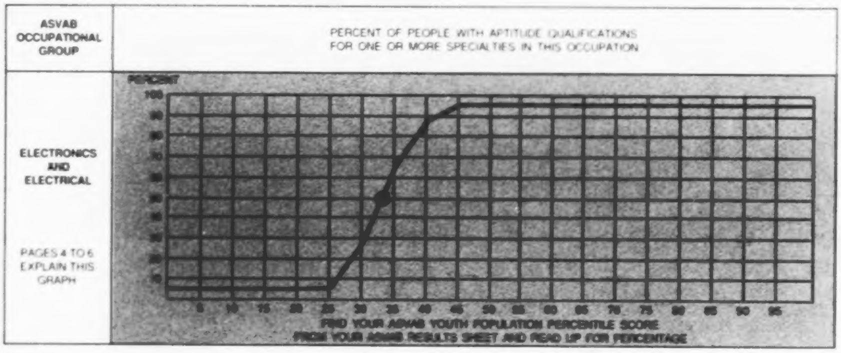
- Interest in cameras and how they work
- Interest in solving problems
- Ability to use repair tools

Civilian Counterparts

Civilian photographic equipment repairers work for photographic laboratories, engineering firms, and government agencies. They perform duties similar to those performed in the military. Depending on specialty, they may also be called camera repairers, motion picture equipment machinists, or photographic equipment technicians.

Opportunities

The services have about 3,650 photographic equipment repairers. On average, they need about 390 new photographic equipment repairers each year. After job training, photographic equipment repairers make routine adjustments and simple repairs under close supervision. In time, they make more difficult repairs and may supervise others. Eventually, they may become chiefs of one or more military photographic labs.



POWER PLANT ELECTRICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each military base -- anywhere in the world -- must have its own electricity. Power plant electricians maintain and repair electricity generating equipment in mobile and stationary power plants.

What They Do

Power plant electricians perform some or all of the following duties:

- Maintain and repair motors, generators, switchboards, and control equipment
- Maintain and repair power and lighting circuits, electrical fixtures, and other electrical equipment
- Detect and locate grounds, open circuits, and short circuits in power distribution cables
- Connect emergency power to the main control board from an emergency switchboard
- Operate standard electrical and electronic test equipment
- Read technical guides and diagrams to locate damaged parts of generators and control equipment

Special Qualifications

Although there are women power plant electricians, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful school subjects include electrical and electronic theory, math, and technical drawing. Helpful attributes include:

- Ability to use hand and power tools
- Interest in working with large machinery
- Interest in electricity

DANGER
HIGH VOLTAGE

Work Environment

Power plant electricians work in repair shops on land, aboard ships, or wherever generating equipment needing repair is located.

Training Provided

Job training consists of between 4 and 17 weeks of classroom instruction, including practice in maintaining electrical power systems. Course length varies depending on specialty. Course content typically includes:

- Generator and power plant operations
- Electrical generation and distribution
- Diesel generator operation, disassembly, inspection, and maintenance
- Principles of electrical and electronic circuitry

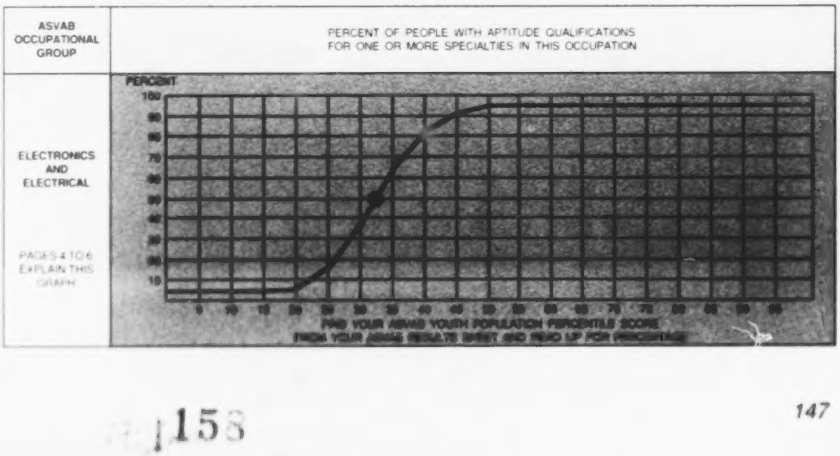
Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian power plant electricians often work for construction companies, manufacturers, and utility companies. They perform duties similar to military power plant electricians.

Opportunities

The services have about 1,560 power plant electricians. On average, they need about 230 new power plant electricians each year. After job training, power plant electricians perform routine maintenance and repairs under supervision. In time, they perform more complex tasks and may help train others. Eventually, they may become supervisors of power plant operations.



PRECISION INSTRUMENT REPAIRERS

Army
Navy
Air Force
Marine Corps

Precision instruments are measuring devices. They can be as simple as a thermometer or as complex as a gyrocompass. Precision instruments are used by the military to measure distance, pressure, altitude, underwater depth, and many other physical properties. Precision instrument repairers keep measuring devices in good working order. They calibrate (adjust) gauges and meters to give correct readings.

What They Do

Precision instrument repairers in the military perform some or all of the following duties:

- Calibrate weather instruments, such as barometers and thermometers
- Repair gyrocompasses
- Adjust and repair weapon aiming devices, such as range finders, telescopes, periscopes, and ballistic computers
- Calibrate engineering instruments, such as transits, levels, telemeters, and stereoscopes
- Calibrate and repair instruments used in aircraft
- Repair watches, clocks, and timers
- Calibrate electrical test instruments

Work Environment

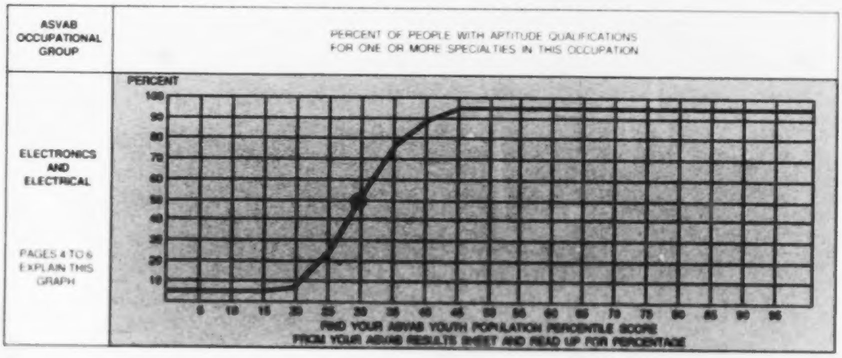
Precision instrument repairers usually work in repair shops on land or aboard ships.

Training Provided

Job training consists of between 12 and 34 weeks of classroom instruction, including practice in repairing precision instruments. Training length varies depending on specialty. Course content typically includes:

- Calibration and repair of precision measuring instruments
- Use of blueprints and schematics

The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.



Helpful Attributes

Helpful school subjects include math, science, electronics, and shop mechanics. Helpful attributes include:

- Interest in machines and how they work
- Ability to solve mechanical problems
- Ability to work with tools

Civilian Counterparts

Civilian precision instruments repairers work for firms that manufacture or use precision instruments. These include manufacturing firms, airlines, machinery repair shops, maintenance shops, and instrument makers. Civilian precision instrument repairers perform duties similar to military precision instrument repairers. They may also be called instrument mechanics or calibration specialists.

Opportunities

The services have about 10,050 precision instrument repairers. On average, they need 1,050 new precision instrument repairers each year. After job training, precision instrument repairers calibrate instruments under the direction of supervisors. With experience, they perform more complicated repairs and may supervise others. In time, precision instrument repairers may become managers of instrument repair shops.

RADAR AND SONAR EQUIPMENT REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Radar and sonar locate objects by bouncing radio and sound waves off them. This equipment is used to detect and track enemy ships, planes, and missiles. It is also used for ship and plane navigation and weather observation. Radar and sonar equipment repairers install, maintain, repair, and operate sonar and radar equipment.

What They Do

Radar and sonar equipment repairers perform some or all of the following duties:

- Test radar systems using electronic and electrical test equipment
- Monitor the operation of air traffic control, missile tracking, air defense, and other radar systems to make sure there are no problems
- Repair sonar and radar components (parts), using soldering irons and other special hand and power tools
- Install receivers, transmitters, and other components using technical manuals and guides
- Read wiring diagrams, designs, and other drawings to locate parts and components of radar equipment

Special Qualifications

Although there are women radar and sonar equipment repairers, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful school subjects include math and physics. Helpful attributes include:

- Interest in working with electrical and electronic equipment
- Ability to apply electronic principles and concepts

Work Environment

Radar and sonar equipment repairers work in repair shops and laboratories on land or aboard ships. Some specialties involve flying.

Physical Demands

Specialties involving flying require passing a special physical exam.

Training Provided

Job training consists of between 20 and 30 weeks of classroom instruction, including practice in repairing radar and sonar equipment. Course content typically includes:

- Application of electronic principles and concepts
- Inspection techniques and procedures
- Use of electrical and electronic test equipment
- Repair and replacement of radar and sonar equipment

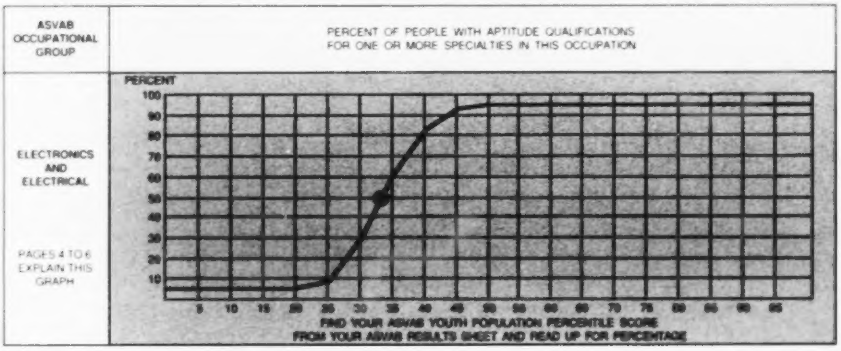
The Army, Navy, and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian radar and sonar equipment repairers work for engineering firms, the federal government, or aircraft and military hardware manufacturers. They perform duties similar to military radar and sonar equipment repairers. They may also be called communications technicians.

Opportunities

The services have about 28,040 radar and sonar equipment repairers. On average, they need about 2,860 new equipment repairers each year. After job training, radar and sonar equipment repairers are assigned to a radar or sonar maintenance unit. They perform routine maintenance and simple repair jobs under close supervision. In time, they may perform more difficult repairs and supervise others. Eventually, they may become managers or chiefs of communications units or avionics maintenance shops.



RADIO EQUIPMENT REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military relies on radio equipment to communicate between ground, sea, and air forces. Through radio, the military can track and direct troop, aircraft, and ship movements. Radio equipment repairers install, maintain, and repair radio communication equipment.

What They Do

Radio equipment repairers perform some or all of the following duties:

- Maintain, test, and repair radio equipment in broadcasting and relay stations, tanks, ships, and aircraft
- Maintain, repair, and replace circuitry, frequency controls, and other radio parts using special hand and power tools
- Adjust, tune, and gauge microwave, satellite, aircraft, and other radio equipment using electronic testing equipment
- Locate and isolate defective parts of radio equipment using technical guides and diagrams

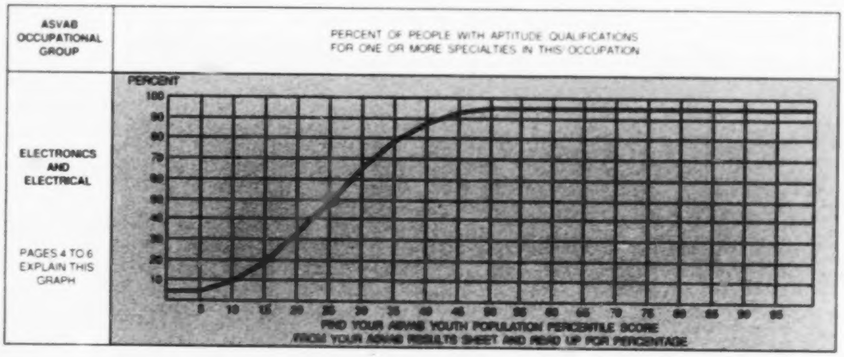
Helpful Attributes

Helpful school subjects include algebra and radio and TV repair. Helpful attributes include:

- Interest in working with electrical and electronic equipment
- Interest in solving problems

Special Qualifications

Although there are women radio equipment repairers, some specialties in this occupation are open only to men.



Work Environment

Radio equipment repairers usually work in repair shops and laboratories. They may work in the field when making repairs on mobile radio equipment.

Training Provided

Job training consists of between 25 and 40 weeks of classroom instruction, including practice in repairing radio equipment. Course content typically includes:

- Electronic principles and concepts
- Radio equipment repair
- Preventive maintenance procedures
- Communication security policies and procedures

The Army and Marine Corps offer certified apprenticeship training programs for some specialties in this occupation.

Civilian Counterparts

Civilian radio equipment repairers often work for firms that design and make aerospace communications and electronic equipment. They may also work for the federal government. They perform duties similar to military radio equipment repairers. They may be called radio repairers, radio mechanics, or radio electricians.

Opportunities

The services have about 49,650 radio equipment repairers. On average, the services need about 5,900 new repairers each year. After job training, repairers are assigned to a radio maintenance unit and perform routine maintenance and simple repair jobs under close supervision. In time, they may perform more difficult repairs and train and supervise other repair personnel. Eventually, they may become managers or chiefs of communications units or maintenance shops.

SHIP ELECTRICIANS

Navy
Coast Guard

Electrical systems supply power to operate ships and submarines. Lights, radar, weapons, laundry and cooking appliances, and machinery all need electricity. Ship electricians operate and repair electrical systems on ships. They keep electrical power plants, wiring, and machinery in working order.

What They Do

Ship electricians in the military perform some or all of the following duties:

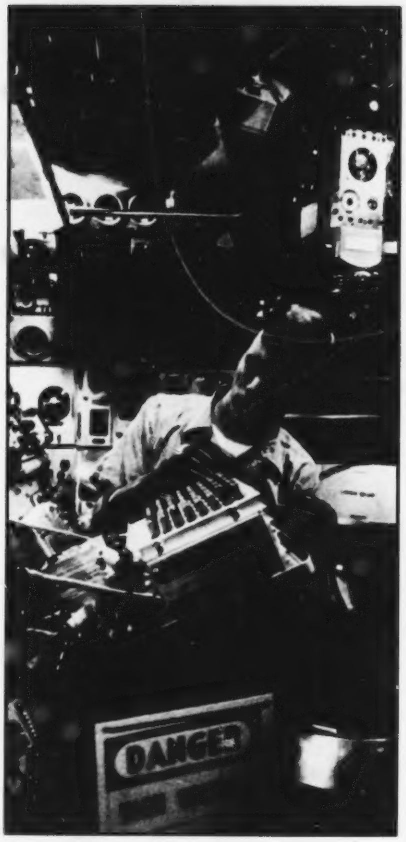
- Install wiring for lights and equipment
- Troubleshoot (find problems in) electrical wiring and equipment using test meters
- Inspect and maintain devices that distribute electricity throughout ships, such as circuits, transformers, and regulators
- Monitor and maintain electrical devices connected to the ship's main engines or nuclear reactors
- Repair motors and appliances

Training Provided

Job training for non-nuclear specialists consists of between 18 and 25 weeks of classroom instruction, including practice repairing electrical systems. Course content typically includes:

- Electrical theory
- Troubleshooting procedures
- Maintenance and repair procedures
- Reading diagrams and calculating amperage, voltage, and resistance levels

Further training occurs on the job and through advanced courses. The Navy offers a certified apprenticeship program in this occupation. Persons qualifying for nuclear training receive instruction lasting one year or more, covering all aspects of nuclear power plant operation.



Special Qualifications

Nuclear specialties require successful completion of high school algebra and are open only to men.

Helpful Attributes

Helpful school courses include math and shop mechanics. Helpful attributes include:

- Interest in electricity and how electrical machines work
- Interest in solving problems
- Ability to use tools

Work Environment

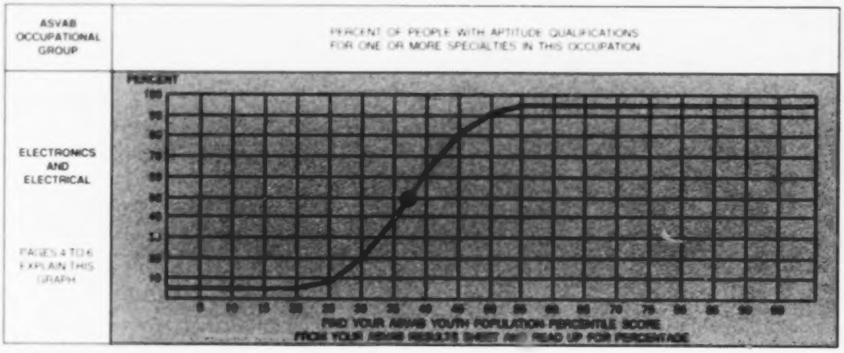
Ship electricians usually work indoors, aboard ships or submarines. They also work in ship repair shops on land.

Civilian Counterparts

Civilian ship electricians work for shipbuilding and drydock firms and shipping lines. They perform duties similar to military ship electricians. Other civilian electricians, such as building electricians and electrical products repairers, also perform similar work. Civilian nuclear power plant electricians perform duties similar to ship electricians who work with nuclear plants on ships and submarines.

Opportunities

The military has about 4,240 ship electricians. On average, the services need about 420 new ship electricians each year. After job training, ship electricians perform maintenance work and repair electrical problems. Eventually, they may become superintendents of electrical repair shops or of ship electrical systems.



TELEPHONE TECHNICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates its own telephone systems to send messages and orders. Phones are used on military bases, ships, and in the field. Telephone technicians install, maintain, and repair military telephone systems.

What They Do

Telephone technicians in the military perform some or all of the following duties:

- Determine the cause of equipment failure
- Install interior wiring and switching equipment
- Connect telephones and switchboards
- Check telephone equipment using test meters
- Repair or replace broken equipment
- Repair short-circuits in wiring
- Read wiring diagrams to determine installation steps

Helpful Attributes

Helpful school courses include math, electricity, and shop mechanics. Helpful attributes include:

- Ability to use hand tools
- Interest in solving problems
- Interest in learning how telephone systems work

Physical Demands

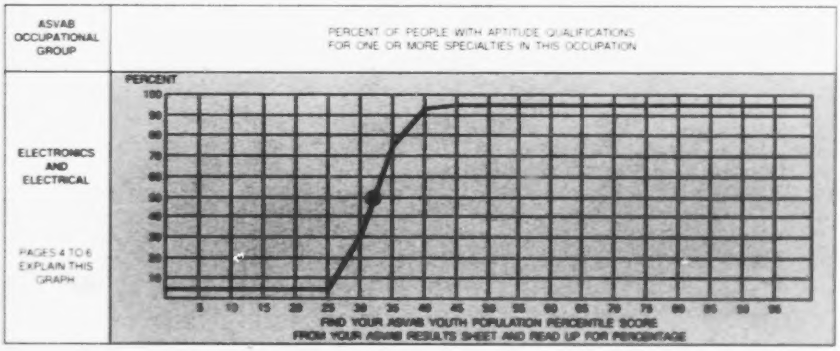
Telephone technicians may have to work from ladders or on tall utility poles.

Training Provided

Job training consists of between 10 and 38 weeks of classroom instruction, including practice in installing and repairing telephone systems. Training length varies depending on specialty. Course content typically includes:

- Repair of office telephone systems
- Wiring installation techniques

Further training occurs on the job and through advanced courses. The Army and Marine Corps both offer certified apprenticeship programs for some specialties in this occupation.



Work Environment

Telephone technicians work indoors when installing or repairing interior wiring and telephone equipment. They work outdoors when connecting communications lines to utility poles or underground terminals.

Civilian Counterparts

Most civilian telephone technicians work for telephone companies. They perform duties similar to military telephone technicians, although they usually specialize in either installation or repair. They may be called central office repairers, PBX repairers, central office installers, station installers and repairers, or telephone maintenance mechanics, depending on specialty.

Opportunities

The military has about 13,200 telephone technicians. On average, they need about 2,200 new telephone technicians each year. After job training, telephone technicians install and repair telephones under the direction of supervisors. With experience, they may become supervisors of other telephone technicians. Eventually, they may become superintendents of communications centers.

TELETYPE REPAIRERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military depends on teletype and cryptographic machines to link air, sea, and ground forces during operations. If equipment breaks down during military operations, it must be repaired immediately. Teletype repairers install, maintain, and repair teletype communications equipment.

What They Do

Teletype repairers perform some or all of the following duties:

- Test and repair communications equipment using frequency meters, circuit analyzers, and other electrical and electronic test equipment
- Monitor operation of cryptographic (coded message) systems, terminals, and teletypewriters
- Read wiring diagrams and technical manuals
- Install and repair circuits and wiring using soldering irons and hand tools
- Calibrate and align equipment components using scales, gauges, and other measuring instruments

Training Provided

Job training consists of between 20 and 30 weeks of classroom instruction, including practice repairing various types of cryptographic and teletype equipment. Course content typically includes:

- Application of electronic and mechanical concepts
- Fundamentals of electronic communications security
- Use and maintenance of test equipment

The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

Teletype repairers usually work indoors in repair shops and laboratories.

Helpful Attributes

Helpful school subjects include math and electronic equipment repair. Helpful attributes include:

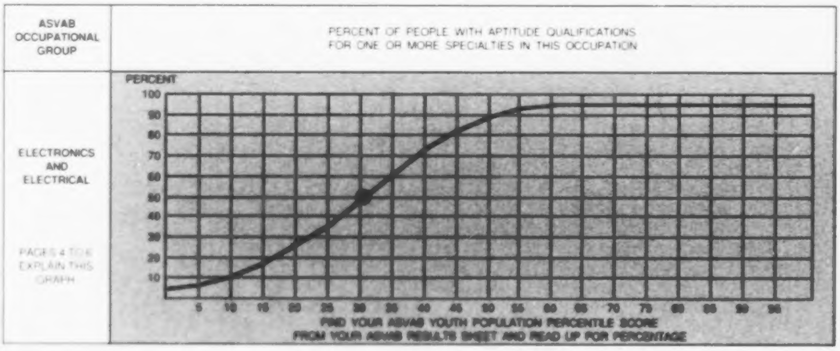
- Interest in working with electromechanical equipment
- Interest in solving problems

Civilian Counterparts

Most civilian teletype repairers work for electronic communications equipment manufacturers and firms providing teletype and communications equipment maintenance service. They perform duties similar to military teletype repairers.

Opportunities

The services have about 12,770 teletype and cryptographic equipment repairers. On average, they need about 1,350 new equipment repairers each year. After job training, new equipment repairers are assigned to a fixed or mobile communications unit. They perform routine maintenance and simple repair jobs under close supervision. With experience, they perform more difficult tasks and may help train new personnel. Eventually, they may become managers or chiefs of maintenance in communications centers or electronics maintenance shops.



Construction Occupations

- Blasting Specialists
- Bricklayers and Concrete Masons
- Building Electricians
- Carpenters
- Ironworkers
- Paving Equipment Operators
- Plumbers and Pipe Fitters
- Well Drillers

BLASTING SPECIALISTS

Army
Navy
Air Force
Marine Corps

Using explosives instead of machines can save time in excavating and quarrying work. Blasting specialists use explosives to clear rock and earth from construction sites. They also loosen rock in quarries to make gravel for paving.

What They Do

Blasting specialists in the military perform some or all of the following duties:

- Determine the amount of explosives required for each job
- Transfer explosives from magazines (storage) to blasting areas
- Determine the placement of explosives for the safest and most efficient results
- Drill holes in rocks, tree stumps, or structures at the proper depth and spacing
- Select explosives and assemble charges, fuses, and blasting caps
- Place explosives in drilled holes and detonate using electric detonators
- Oversee the storage of explosives
- Keep records of explosives used

Physical Demands

Some specialties require that workers have no history of heart or vascular problems because of the stress of working with explosives. Normal hearing is required to work with explosives.

Helpful Attributes

Helpful school subjects include science and math. Helpful attributes include:

- Emotional stability
- Ability to stay calm under pressure
- Ability to observe strict safety procedures

Work Environment

Blasting specialists work outdoors at construction sites or quarries.

Training Provided

Job training consists of between 6 and 10 weeks of classroom instruction, including practice in working with explosives. Training length varies depending on specialty. Course content typically includes:

- Types of explosives and blasting materials
- Safety procedures
- Methods of placing explosive charges
- Storing and transporting explosives

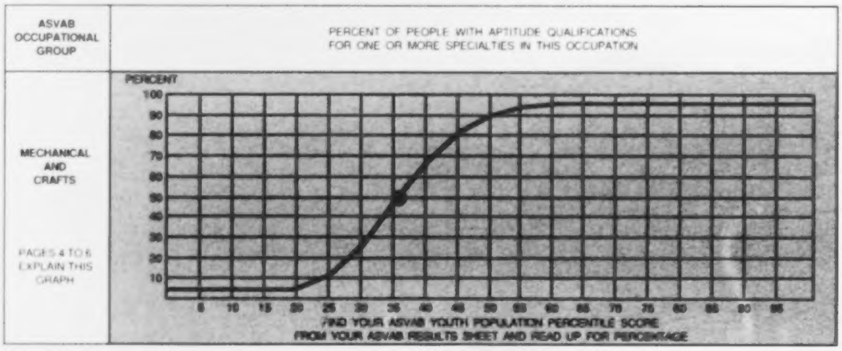
Further training occurs on the job. The Army offers a certified apprenticeship program for this occupation.

Civilian Counterparts

Civilian blasting specialists work for construction companies or rock quarries. They perform duties similar to military blasting specialists and are commonly called blasters.

Opportunities

The services have about 520 blasting specialists. On average, they need about 90 new specialists each year. After job training, blasting specialists work under close supervision. With experience, they work more independently and may help train new specialists. In time, they may become construction superintendents.



BRICKLAYERS AND CONCRETE MASONS

Army
Navy
Air Force
Marine Corps

The military uses concrete and masonry (bricks, stone, and concrete blocks) in many of its building projects. Concrete is used for foundations, dams, bridges, and bunkers. Brick, stone, and block are used in constructing buildings, walls, and fences. Bricklayers and concrete masons build and repair all types of structures made of concrete and masonry. They work with engineers and other building specialists as part of construction teams.

What They Do

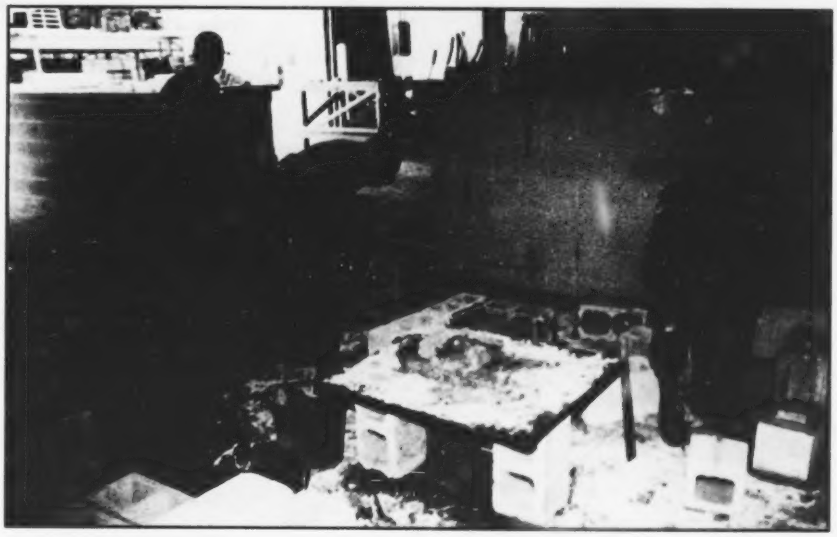
Bricklayers and concrete masons in the military perform some or all of the following duties:

- Build foundations and walls, with brick, cement block, or stone
- Set masonry in correct position using mortar
- Cut and shape masonry using power saws, chisels, and hammers
- Mix and pour concrete to form footings, foundations, and floor slabs
- Finish surfaces of poured concrete using finishing tools, such as floats, screeds, and edgers
- Plaster inside walls and ceilings
- Set ceramic tile on walls and floors

Helpful Attributes

Helpful attributes include:

- Preference for doing physical work
- Ability to work with blueprints
- Preference for working outdoors



Training Provided

Job training consists of between 5 and 8 weeks of classroom instruction, including practice in working with tools and materials. Course content typically includes:

- Use and care of masonry tools and equipment
- How to mix concrete, mortar, and plaster
- Methods of pouring concrete
- Masonry construction methods

The Army offers certified apprenticeship programs for some specialties in this occupation.

Physical Demands

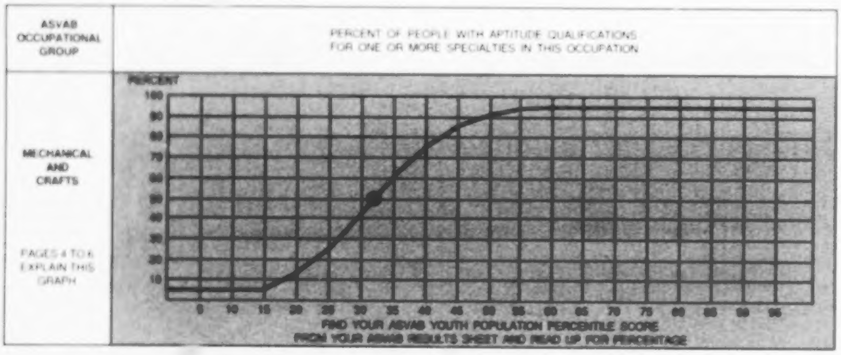
Bricklayers and concrete masons work with relatively heavy materials. Sometimes, they are required to climb and work from ladders and scaffolds.

Work Environment

Bricklayers and concrete masons work indoors and outdoors on construction sites.

Civilian Counterparts

Civilian bricklayers and concrete masons work for construction firms and as independent contractors. They perform duties similar to military bricklayers and concrete masons. They may also be called brickmasons, stonemasons, cement masons, or cement finishers.



Opportunities

The military has about 4,520 bricklayers and concrete masons. On average, the services need about 550 new bricklayers and masons each year. After job training, bricklayers and masons work on construction projects under close supervision. With experience they work more independently and may supervise others. In time, bricklayers and concrete masons have the opportunity to become construction superintendents.

BUILDING ELECTRICIANS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses electricity to do many jobs, including lighting hospitals, running power tools, and operating computers. Building electricians install and repair electrical wiring systems in offices, repair shops, airplane hangars, and other buildings on military bases.

What They Do

Building electricians in the military perform some or all of the following duties:

- Install and wire transformers, junction boxes, and circuit breakers, using wire cutters, insulation strippers, and other hand tools
- Read blueprints, wiring plans, and repair orders to determine wiring layouts or repair needs
- Cut, bend, and string wires and conduits (pipe or tubing)
- Inspect power distribution systems, shorts in wires, and faulty equipment using test meters
- Repair and replace faulty wiring and lighting fixtures
- Install lightning rods to protect electrical systems

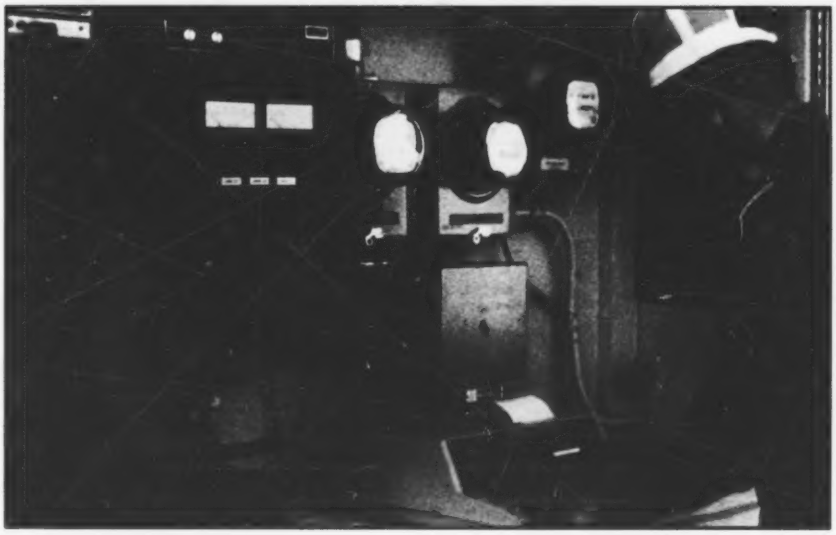
Helpful Attributes

Helpful school subjects include science and math. Helpful attributes include:

- Ability to use hand tools
- Preference for doing physical work
- Interest in electricity

Work Environment

Building electricians usually work indoors while installing wiring systems. They work outdoors while installing transformers and lightning rods.



Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction, including practice in the installation and repair of electrical wiring systems. Course content typically includes:

- Fundamentals of electricity
- Electrical circuit troubleshooting
- Safety procedures
- Techniques for wiring switches, outlets, and junction boxes

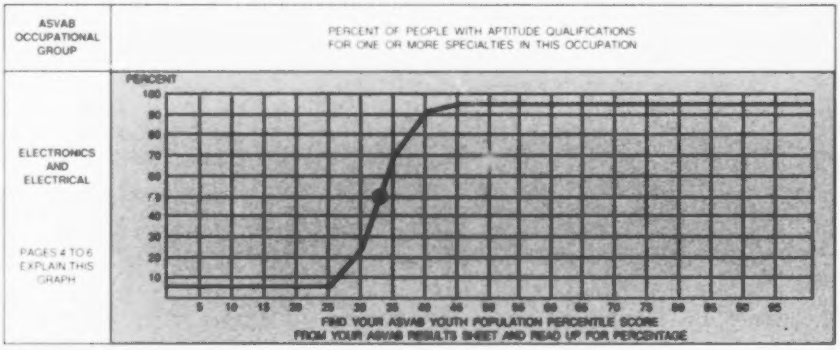
Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian building electricians usually work for building and electrical contracting firms. Some work as self-employed electrical contractors. They perform duties similar to military building electricians.

Opportunities

The military has about 1,820 building electricians. On average, the services need about 290 new electricians each year. After job training, building electricians work under close supervision. As they gain experience, building electricians work more independently. In time, they may be promoted to supervisors of one or more work crews. Eventually, they may become construction superintendents.



CARPENTERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military builds many temporary and permanent structures each year. Lumber, plywood, plasterboard, and similar materials are the basic building materials for many of these projects. Carpenters build and repair buildings, bridges, and other wooden structures. They work with engineers and other building specialists on military construction projects.

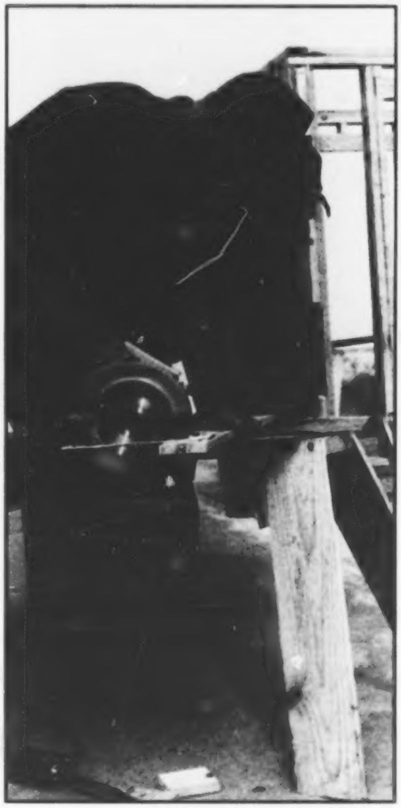
What They Do

Carpenters in the military perform some or all of the following duties:

- Erect wood framing for buildings using hand and power tools, such as hammers, saws, levels, and drills
- Lay roofing materials, such as roofing felt and asphalt, tile, and wooden shingles
- Install plasterboard and paneling to form interior walls and ceilings
- Lay wood and tile floors and build steps, staircases, and porches
- Operate precision power tools, such as drill presses, table saws, and lathes
- Build temporary shelters for storing supplies and equipment while on training maneuvers

Physical Demands

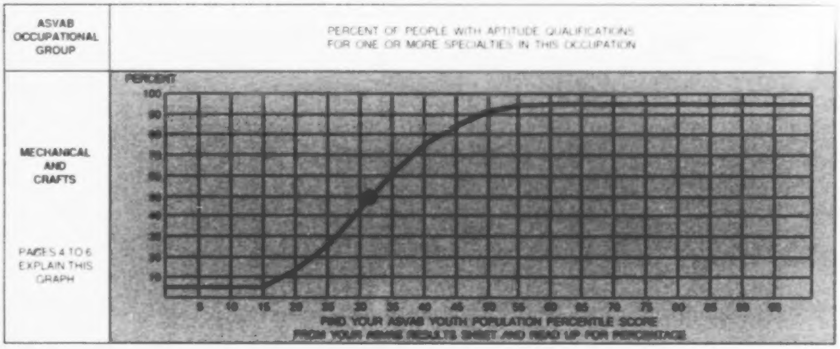
Carpenters may have to lift and carry heavy building materials, such as lumber and plasterboard. Also, they may have to climb and work from ladders and scaffolding.



Helpful Attributes

Helpful school subjects include math, woodworking, and industrial arts. Helpful attributes include:

- Preference for physical work
- Ability to use woodworking tools
- Interest in construction work



Work Environment

Carpenters work in woodworking shops, which can be dusty and noisy. They also work inside buildings, laying floors and installing plasterboard walls. Carpenters sometimes work outdoors, constructing temporary buildings.

Training Provided

Job training consists of between 6 and 8 weeks of instruction, including practice with carpentry tools. Course content typically includes:

- Use and care of carpentry tools
- Building construction
- Types and uses of construction joints and braces
- Interpretation of blueprints and drawings

Further training occurs on the job and through advanced courses. The Army offers certified apprenticeship programs in this occupation.

Civilian Counterparts

Civilian carpenters usually work for construction or remodeling contractors, government agencies, utility companies, or manufacturing firms. Other carpenters are self-employed contractors. Civilian carpenters perform duties similar to military carpenters. Civilian carpenters often specialize in finish or rough carpentry or cabinetmaking.

Opportunities

The military has about 6,070 carpenters. On average, the services need about 1,100 new carpenters each year. After job training, carpenters work in teams under close supervision. Initially, they perform simple work, such as form building and rough framing. With experience, they perform more difficult tasks. In time, they may supervise and train other carpenters. They may become construction superintendents.

IRONWORKERS

Army
Navy

Steel girders form the framework of most large structures. The military uses steel to construct buildings, piers, storage tanks, and other large structures. Ironworkers erect and repair the steel frameworks used in military construction.

What They Do

Ironworkers in the military perform some or all of the following duties:

- Read blueprints to determine the correct placement of structural steel
- Operate cranes and derricks to raise steel columns, beams, and girders
- Position steel pieces using guide ropes, hand tools, and jacks
- Check the alignment of steel pieces using levels and plumb bobs
- Bolt, weld, or rivet frameworks
- Prepare anchor bolts, reinforcing bars, and steel mesh for footings, overhead slabs, and other reinforced concrete structures
- Operate arc and gas welding rigs to cut and weld structural steel

Physical Demands

Ironworkers often work on structures that are one or more stories high. They need good balance and agility in order to climb and move around on structural steel pieces. Ironworkers must not suffer from vertigo (dizziness) or fear of heights. They have to lift and carry heavy tools and steel parts.

Helpful Attributes

Helpful attributes include:

- Preference for doing physical work
- Preference for working outdoors
- Ability to work as a member of a team

Work Environment

Ironworkers work outdoors in all kinds of weather conditions.

Training Provided

Job training consists of between 7 and 8 weeks of classroom instruction, including practice in working with structural steel parts. Course content typically includes:

- Methods of erecting structural steel
- How to operate gas and electric welding rigs
- Layout of reinforced concrete structures

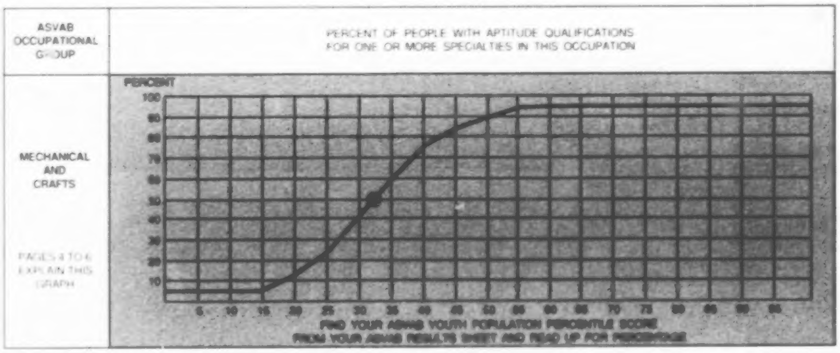
Further training occurs on the job and through advanced courses. The Army offers certified training programs for some specialties in this occupation.

Civilian Counterparts

Civilian ironworkers are employed by construction firms. Some work for utilities, large industrial firms, and government. Civilian ironworkers perform duties similar to those performed in the military. They may be called structural steelworkers or reinforcing metal workers.

Opportunities

The services have about 1,010 ironworkers. On average, they need about 130 new ironworkers each year. After job training, ironworkers perform simple tasks, such as tossing rivets or carrying metal parts. With experience, they work more independently and perform more difficult tasks. In time, ironworkers have the opportunity to become construction superintendents.



PAVING EQUIPMENT OPERATORS

Army
Navy
Air Force
Marine Corps

The military uses concrete and asphalt to pave its airfields, roads, and sidewalks. Paving equipment operators mix batches of concrete and asphalt and then spread it with paving machines. They also operate rock quarries to make gravel.

What They Do

Paving equipment operators in the military perform some or all of the following duties:

- Operate rock crushers and other quarry equipment to make gravel
- Operate mixing plants to make batches of concrete and asphalt
- Spread asphalt and concrete with paving machines
- Operate pavement rollers to smooth asphalt surfaces
- Inspect pavement for damage or wear
- Patch worn pavement
- Take samples and test asphalt or concrete quality

Helpful Attributes

Helpful school subjects include science and shop mechanics. Helpful attributes include:

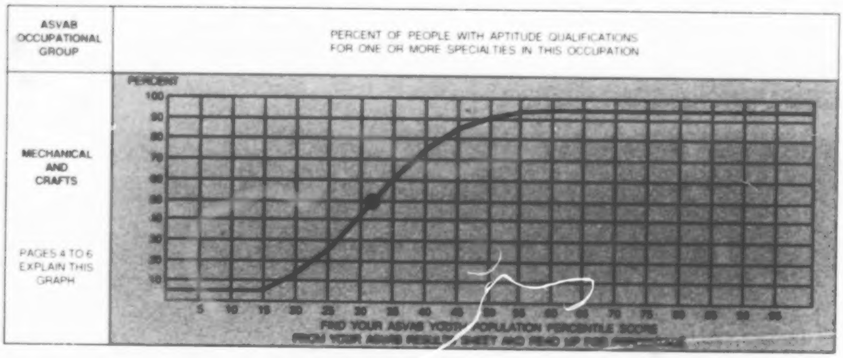
- Preference for working outdoors
- Interest in working with large machines and equipment

Training Provided

Job training consists of between 4 and 8 weeks of classroom instruction, including practice in operating paving equipment. Training length varies depending on specialty. Course content typically includes:

- Concrete and asphalt paving
- Road and runway repair and maintenance
- Operation and care of paving equipment

The Army offers a certified apprenticeship program for this occupation.



Work Environment

Paving equipment operators work outdoors in all kinds of weather conditions.

Civilian Counterparts

Civilian paving equipment operators work for construction companies, paving contractors, and state highway agencies. They perform duties similar to military paving equipment operators.

Opportunities

The services have about 3,750 paving equipment operators. On average, they need about 680 new paving equipment operators each year. After job training, paving equipment operators are assigned to pavement maintenance units, where they perform routine tasks as paving crew members. With experience operating paving equipment, they may become crew leaders and help train new workers. Eventually, paving equipment operators have the opportunity to become maintenance supervisors or construction superintendents.

PLUMBERS AND PIPE FITTERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military buildings and equipment require pipe systems for water, steam, gas, and waste. Pipe systems are also needed on aircraft, missiles, and ships for hydraulic (fluid pressure) and pneumatic (air pressure) systems. Plumbers and pipe fitters install and repair plumbing and pipe systems.

What They Do

Plumbers and pipe fitters in the military perform some or all of the following duties:

- Plan layouts of pipe systems using blueprints and drawings
- Bend, cut, and thread pipes made of lead, copper, and plastic
- Install connectors, fittings, and joints
- Solder or braze pipe and tubing to join them
- Install sinks, toilets, and other plumbing fixtures
- Troubleshoot, test, and calibrate hydraulic and pneumatic systems
- Keep accurate records of tasks completed and materials used

Physical Demands

Plumbers and pipe fitters have to lift and carry heavy pipes and tubes.

Helpful Attributes

Helpful school subjects include math, shop mechanics, and blueprint reading. Helpful attributes include:

- Preference for doing physical work
- Ability to work with detailed plans

Work Environment

Plumbers and pipe fitters work both indoors and outdoors on land and aboard ship.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction, including practice in repairing plumbing systems. Course content typically includes:

- Installation, operation, and repair of pipe systems
- Installation and repair of plumbing fixtures and boiler controls
- Installation and repair of water purification and distillation systems
- Maintenance and repair of hydraulic and pneumatic systems
- Methods of soldering, welding, silver brazing, and cutting

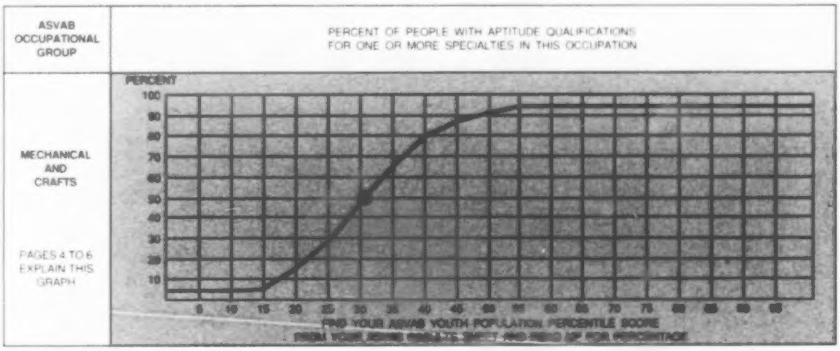
The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian plumbers and pipe fitters usually work for mechanical or plumbing contractors or as self-employed contractors. Some plumbers and pipe fitters work for public utilities. Civilian plumbers and pipe fitters perform duties similar to those performed in the military.

Opportunities

The military has about 4,440 plumbers and pipe fitters. On average, the services need about 600 new plumbers and pipe fitters each year. After job training, plumbers and pipe fitters work under close supervision. With experience, they work more independently and may supervise others. Eventually, they may advance to become managers of utilities departments, construction units, or missile maintenance units.



WELL DRILLERS

Army
Navy

Fresh drinking water is not always available in areas where the military needs to set up a base or camp. Wells, drilled deep in the earth, are sometimes the only source of water. Well drillers operate drilling rigs that bore through rock and earth to make water wells.

What They Do

Well drillers in the military perform some or all of the following duties:

- Select drilling sites
- Erect and position derricks
- Drill wells using drilling rigs
- Study drilling core samples to find the best places to drill
- Test well water for purity
- Repair drill bits, drilling rigs, and related equipment

Training Provided

Job training consists of 8 weeks of classroom instruction, including practice in maintaining well drilling equipment. Course content typically includes:

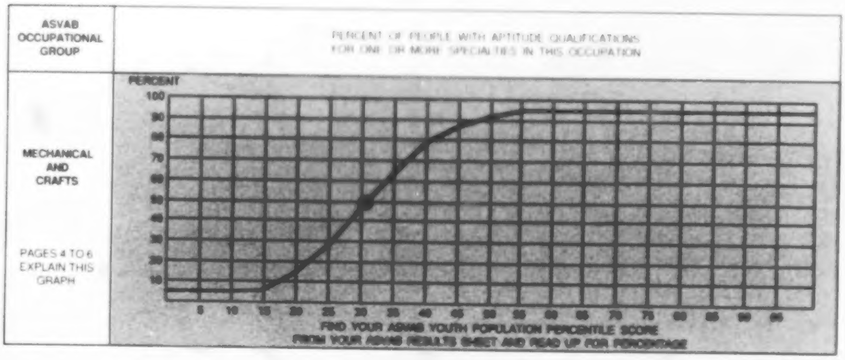
- Drilling site selection techniques
- Operation and maintenance of well drilling equipment
- Methods for testing well waste purity
- Analysis of drilling core samples

The Army offers a certified apprenticeship program for this occupation.

Helpful Attributes

Helpful attributes include:

- Preference for working outdoors
- Interest in working with machines and equipment



Work Environment

Well drillers normally work outdoors in all types of climates. They work indoors while testing water for purity and repairing drilling tools.

Civilian Counterparts

Civilian well drillers work for independent water well drillers and construction contractors. They perform duties similar to military well drillers.

Opportunities

The services have about 1,220 well drillers. On average, they need about 140 new well drillers each year. After job training, well drillers work as members of a well drilling crew. With experience, they work more independently and may train other well drillers. Eventually, well drillers may advance to become drilling team supervisors and, possibly, construction superintendents.

Machine Operator and Precision Work Occupations

- Boiler Technicians
- Clothing and Fabric Repairers
- Compressed Gas Technicians
- Dental Laboratory Technicians
- Machinists
- Opticians
- Photoprocessing Specialists
- Power Plant Operators
- Printing Specialists
- Sheet Metal Workers
- Shipfitters
- Survival Equipment Specialists
- Water and Sewage Treatment Plant Operators
- Welders

BOILER TECHNICIANS

Navy
Coast Guard

Boilers are high pressure tanks that convert water into steam. The steam is used to drive large turbines, which power many ships. Boiler technicians operate and repair the large boilers that provide power for military ships.

What They Do

Boiler technicians in the military perform some or all of the following duties:

- Operate main and auxiliary boilers
- Operate the steam turbines that generate power for the ship
- Maintain the heat source, high pressure fittings, and other boiler parts
- Operate and maintain automatic boiler controls
- Repair valves, pumps, and forced-air blowers
- Align fuel, water, and air piping systems using hand and power tools
- Test water and fuel for quality and purity

Physical Demands

Boiler technicians may have to lift or move heavy pumps, airblowers, and other equipment. They may have to stoop and kneel and work in awkward positions while repairing boilers.

Training Provided

Job training consists of between 12 and 16 weeks of classroom instruction, including practice in boiler equipment repair and maintenance. Course content typically includes:

- Basic marine engineering
- Use and care of hand and power tools
- Repair of propulsion systems
- Boiler maintenance

Further training occurs on the job and through advanced courses. The Navy offers a certified apprenticeship program for this occupation.

Helpful Attributes

Helpful school subjects include metal shop and math. Helpful attributes include:

- Interest in working with machines and equipment
- Preference for doing physical work
- Ability to work in confined areas

Civilian Counterparts

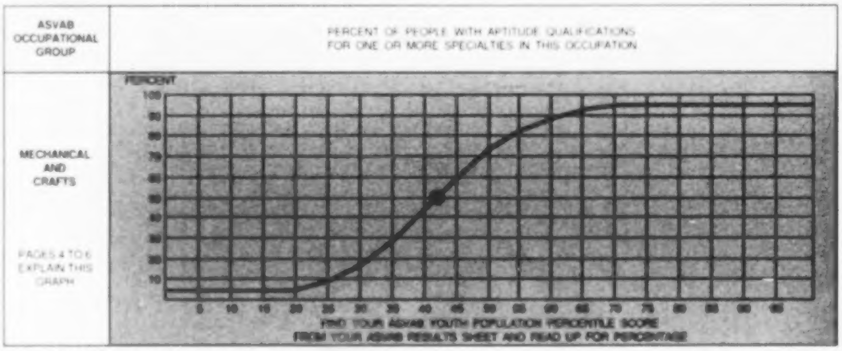
Civilian boiler technicians, called boilermakers, work for shiplines, boiler repair shops, or factories. They perform duties similar to military boiler technicians. Boiler technicians also build and install boilers, as well as operate and repair them. Besides shipping, boilers are used in buildings and factories for steam heat and power.

Work Environment

Boiler technicians work below deck in ship boiler rooms, which are often hot and noisy.

Opportunities

The services have about 10,000 boiler technicians. On average, they need about 1,500 new boiler technicians each year. After job training, boiler technicians are assigned to ships where they operate boilers under close supervision. With experience, they make repairs to boiler parts and control systems. In time, boiler technicians may advance to supervisory or management positions in ship engineering.



CLOTHING AND FABRIC REPAIRERS

Army
Navy
Air Force
Marine Corps

The military uses many items made of cloth or canvas, including uniforms and tents. Clothing and fabric repairers alter and repair clothing and canvas. They also sew name tags and patches on uniforms.

What They Do

Clothing and fabric repairers in the military perform some or all of the following duties:

- Inspect and mark items received for repair
- Repair tents, covers, and other canvas equipment
- Mend worn or damaged fabric and rubber goods
- Measure and mark uniforms for alterations
- Alter and repair uniforms
- Operate and maintain sewing machines

Helpful Attributes

Helpful attributes include:

- Ability to sew by hand or with machines
- Interest in work requiring accuracy and attention to detail

Work Environment

Clothing and fabric repairers work indoors in repair shops on land or aboard ships.

Training Provided

Job training consists of between 6 and 8 weeks of classroom instruction, including practice in repairing fabrics. Course content typically includes:

- Procedures for marking items for repair or alterations
- Hand sewing techniques
- Use and care of sewing machines

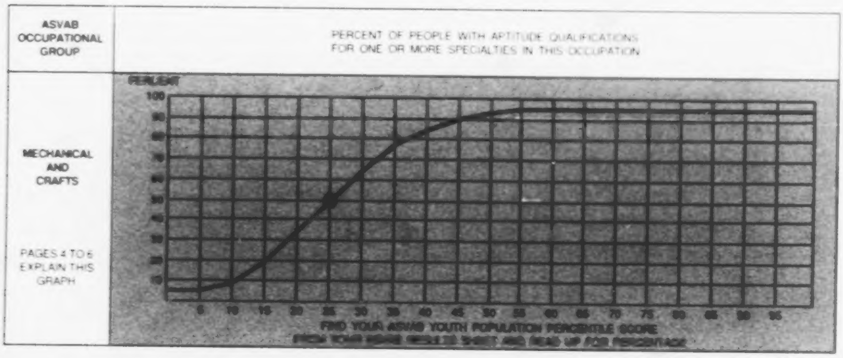
Further training occurs on the job.

Civilian Counterparts

Civilian clothing and fabric repairers work for retail clothing stores, tailor shops, and firms that manufacture covers for boats, cars, and other equipment. Some clothing and fabric repairers work for laundries or dry cleaning shops. Civilian clothing and fabric repairers perform duties similar to military clothing and fabric repairers. Depending on specialty, civilian clothing and fabric repairers may also be called menders, canvas repairers, alteration tailors, or garment fitters.

Opportunities

The military has about 4,100 clothing and fabric repairers. On average, the services need about 400 new clothing and fabric repairers each year. After job training, clothing and fabric repairers work under the direction of more experienced workers and supervisors. In time, they may supervise other clothing and fabric repairers. Eventually, they may become superintendents of large maintenance repair facilities.



COMPRESSED GAS TECHNICIANS

Army
Navy
Air Force
Marine Corps

Compressed gases have many uses in the military, such as breathing oxygen for jet pilots, divers, and medical patients and fuel for missiles and welding torches. Compressed gas technicians operate and maintain the machinery used to compress or liquefy gases.

What They Do

Compressed gas technicians in the military perform some or all of the following duties:

- Operate valves to control the flow of air through machinery that compresses or liquefies gases
- Remove impurities, such as carbon dioxide, from gases
- Fill storage cylinders with compressed gas
- Test cylinders for leaks, using pressure gauges
- Operate dry ice plants
- Maintain compressed gas machinery

Training Provided

Job training consists of between 14 and 19 weeks of classroom instruction, including practice working with compressed gases. Course content typically includes:

- Operation and maintenance of systems that produce liquefied and compressed gases
- Storage, distribution, and handling of liquid gas and dry ice
- Procedures for changing and handling compressed gas cylinders
- Safety precautions

OXYGEN
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Helpful Attributes

Helpful attributes include:

- Interest in working with machines
- Preference for doing physical work

Civilian Counterparts

Civilian compressed gas technicians work for a wide range of industrial companies and processing plants, especially distilling and chemical firms. They perform duties similar to military compressed gas technicians. They may also be called oxygen plant operators, compressed gas plant workers, or acetylene plant operators.

Work Environment

Compressed gas technicians in the military normally work indoors in shops on bases or aboard ship. Working with air compressors may be noisy and hot.

Opportunities

The military has about 1,775 compressed gas technicians. On average, the services need about 170 new technicians each year. After job training, compressed gas technicians work under the direction of supervisors. With experience, they work more independently and may eventually manage compressed gas production plants.

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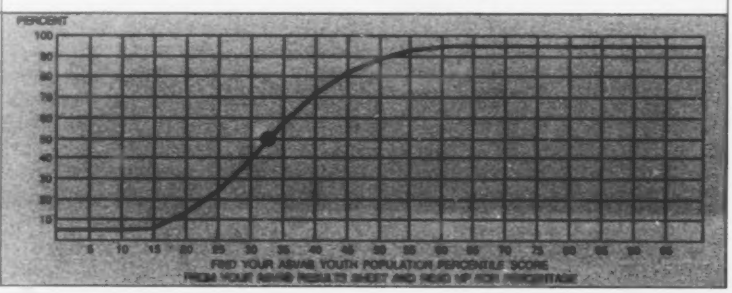
MECHANICAL AND CRAFTS PAGES 4 TO 6 EXPLAIN THIS GRAPH	

DENTAL LABORATORY TECHNICIANS

Army
Navy
Air Force
Coast Guard

Dental laboratories provide military dentists with braces to straighten crooked teeth, dentures to replace missing teeth, and crowns to repair damaged teeth. Dental laboratory technicians make and repair braces, dentures, crowns, and other dental devices.

What They Do

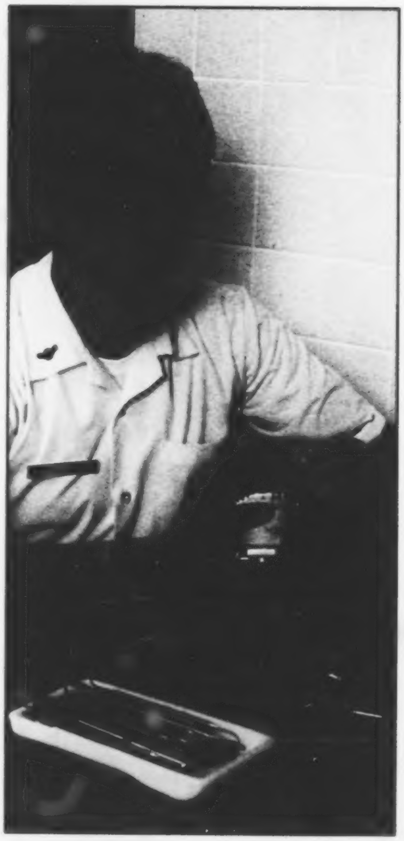
Dental laboratory technicians perform some or all of the following duties:

- Read instructions from dentists to make dentures, braces, and other dental devices
- Make dentures or crowns using molds made from teeth impressions
- Grind and polish dentures to match natural teeth and to fit properly in patient's mouth
- Match the color of artificial teeth to natural tooth color following prescription orders from dentists
- Harden and cure new dentures in high temperature ovens
- Construct, repair, and align metal braces and retainers
- Order, store, and issue lab supplies

Helpful Attributes

Helpful school subjects include biology and chemistry. Helpful attributes include:

- Ability to use precision tools and instruments
- Interest in working in a laboratory setting



Work Environment

Dental laboratory technicians work indoors in dental labs.

Training Provided

Job training consists of between 22 and 24 weeks of classroom instruction, including practice in making and repairing dental devices. Course content typically includes:

- Dental terminology and laboratory procedures
- Making full and partial dentures, crowns, and bridges
- Making braces and retainers to straighten teeth

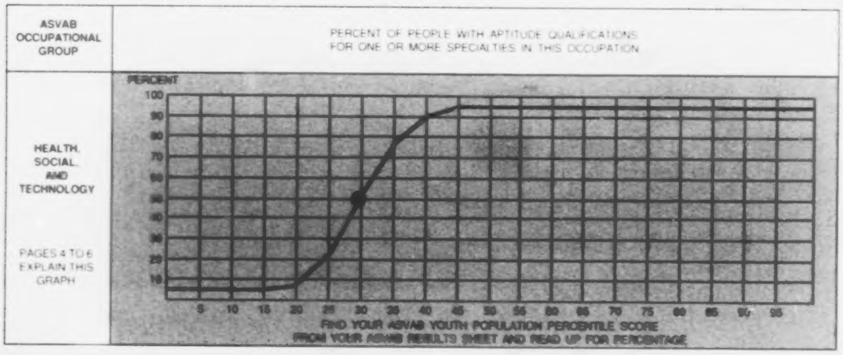
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian dental laboratory technicians normally work for small, privately owned dental laboratories. However, some are employed in large dental offices. They perform duties similar to military dental laboratory technicians. However, civilian technicians often specialize in one of five dental areas: full dentures, partial dentures, crowns and bridges, ceramics, or orthodontics (tooth straightening).

Opportunities

The services have about 2,220 dental laboratory technicians. On average, they need about 220 new dental laboratory technicians each year. After job training, dental laboratory technicians work under very close supervision. With experience, they work more independently and are given more difficult tasks. Eventually, they may become supervisors or managers of dental laboratories.



MACHINISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Sometimes when engines or machines break down, the parts needed to repair them are not available. In these cases, the broken parts must be repaired or new ones made. Machinists make and repair metal parts for engines and all types of machines. They operate lathes, drill presses, grinders, and other machine shop equipment.

What They Do

Machinists in the military perform some or all of the following duties:

- Study blueprints or written plans of the parts to be made
- Set up and operate lathes to make parts such as shafts and gears
- Cut metal stock using power hacksaws and bandsaws
- Bore holes using drill presses
- Shape and smooth parts using grinders
- Measure work using micrometers, calipers, and depth gauges

Special Qualifications

Although there are women machinists, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful school subjects include math, general science, metal working, and mechanical drawing. Helpful attributes include:

- Preference for working with the hands
- Interest in making things and finding solutions to mechanical problems
- Ability to apply mathematical formulas

Work Environment

Machinists work in machine shops, which are often noisy.

Training Provided

Job training consists of between 10 and 12 weeks of classroom instruction, including practice in machine operation. Course content typically includes:

- Machine types and uses
- Machine setup and operation
- Uses of different metals
- Safety procedures

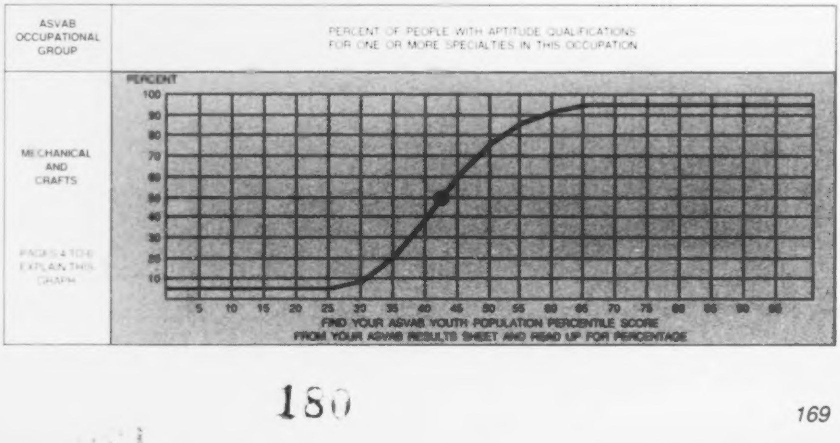
Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for this occupation.

Civilian Counterparts

Civilian machinists work for factories and repair shops in many industries, including the electrical product, automotive, and heavy machinery industries. They perform duties similar to military machinists.

Opportunities

The services have about 5,340 machinists. On average, they need about 560 new machinists each year. After job training, machinists perform routine repairs under close supervision. In time, they perform more difficult repairs and may train others. Eventually, they may become managers of one or more machine shops.



OPTICIANS

Army
Navy

The military provides eye care to all service men and women as part of its comprehensive health service program. A frequent eye care need is for eyeglasses to correct nearsighted or farsighted vision. Opticians grind corrective lenses for eyeglasses. They also fit and adjust glasses for eye care patients.

What They Do

Opticians in the military perform some or all of the following duties:

- Calculate the correct lens size and thickness from written prescriptions
- Grind and polish lenses using power grinders and polishers
- Smooth lens edges using hand or power tools
- Dye lenses to prescribed tints and apply lens coatings for protection
- Harden lenses using heat-treating equipment
- Assemble eyeglass frames and lenses using optical tools
- Fit and adjust glasses for eye care patients

Special Qualifications

Successful completion of high school algebra is required to enter some specialties in this occupation.

Training Provided

Job training consists of between 21 and 26 weeks of classroom instruction, including practice in grinding and fitting corrective lenses. Optician candidates who already have an optician's license or have completed a one-year optician course may be exempted from some or all of the military job training. Course content typically includes:

- Study of the structure, function, and diseases of the eyes
- Optical laboratory operating procedures
- Techniques for adjusting, fitting, and dispensing eyeglasses

Helpful Attributes

Helpful attributes include:

- Ability to follow detailed instructions and work procedures
- Ability to do precise work
- Interest in working with one's hands

Work Environment

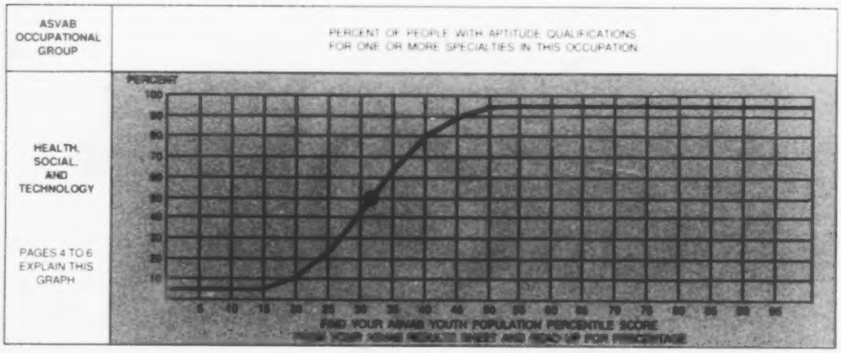
Opticians normally work in optical laboratories and in examination and dispensing offices.

Civilian Counterparts

Civilian opticians work for optical laboratories and retail opticians. They perform duties similar to military opticians. They may also be called ophthalmic laboratory technicians.

Opportunities

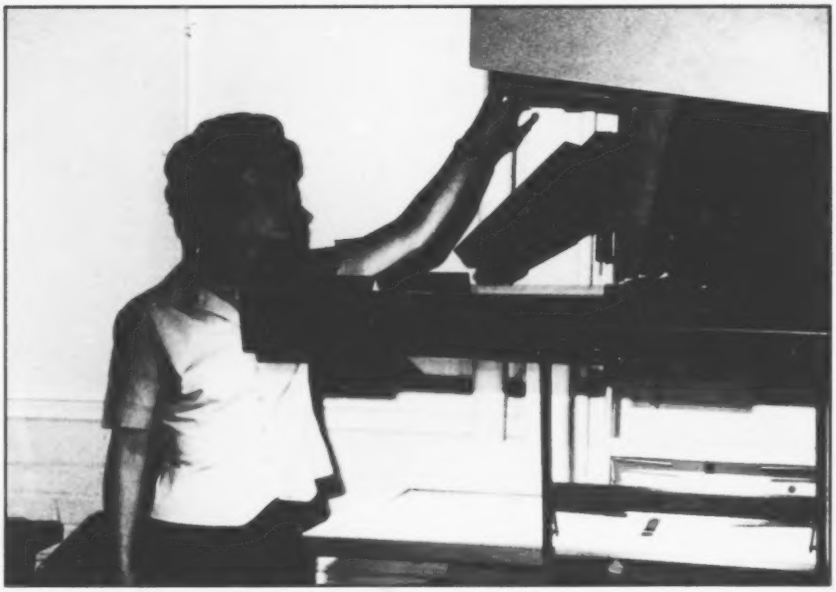
The services have about 390 opticians. On average, they need about 40 new opticians each year. After job training, opticians are assigned to optical labs and dispensaries, where they work under close supervision. With experience, they work more independently and may help train new opticians. In time, opticians may supervise optical laboratories.



PHOTOPROCESSING SPECIALISTS

Army
Navy
Air Force
Marine Corps

The services operate photographic laboratories to develop the thousands of photographs and motion picture films taken each year by the military. Photoprocessing specialists develop still and motion picture film using film processors and printers.



What They Do

Photoprocessing specialists in the military perform some or all of the following duties:

- Develop film "negatives" by using a series of chemical and water baths
- Produce prints from negatives
- Operate developing machines that make prints from film
- Monitor the flow of film and printing paper through automated processors
- Operate photo enlargers
- Maintain photographic lab equipment

Helpful Attributes

Helpful school subjects include chemistry and photography. Helpful attributes include:

- Interest in photography and photoprocessing
- Interest in chemistry
- Ability to do work requiring accuracy and attention to detail

Training Provided

Job training consists of between 12 and 24 weeks of classroom instruction, including practice in developing film. Training length varies depending on specialty. Course content typically includes:

- Chemistry of photographic development
- Operation of automatic film processors
- Darkroom procedures

Further training occurs on the job and through advanced courses. The Army and Navy offer certified apprenticeship programs for some specialties in this occupation.

Work Environment

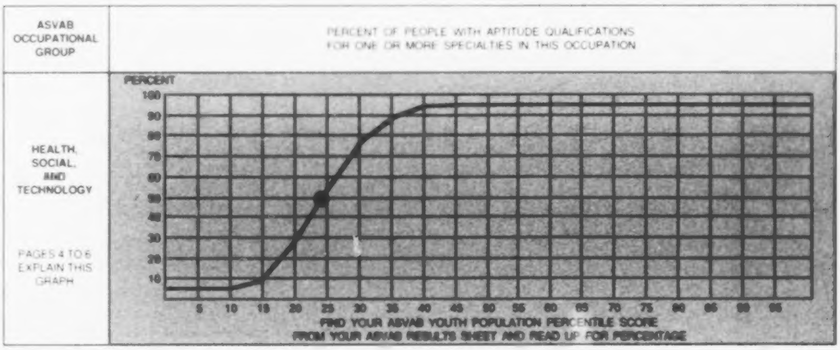
Photoprocessing specialists in the military work in photographic laboratories on bases or aboard ships.

Civilian Counterparts

Civilian photoprocessing specialists work for large commercial photograph developers, portrait and studio labs, newspaper and magazine publishing companies, and advertising agencies. They perform duties similar to military photoprocessing specialists. They may also be called film developers, automatic print developers, or print controllers.

Opportunities

The services have about 1,810 photoprocessing specialists. On average, they need about 220 new photoprocessing specialists each year. After job training, photoprocessing specialists work under the direction of experienced workers and supervisors. With experience, they work more independently and may supervise others. In time, photoprocessing specialists may advance to become managers of photographic laboratories.



POWER PLANT OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Power plants generate electricity for ships, submarines, and military bases. The military uses many different types of power plants. Some are fueled by oil, others run on coal. Many ships and submarines have nuclear power plants. Power plant operators control power generating plants on land and aboard ships and submarines. They operate boilers, turbines, nuclear reactors, and portable generators.

What They Do

Power plant operators in the military perform some or all of the following duties:

- Monitor and operate control boards to regulate power plants
- Operate and maintain diesel generating units to produce electric power
- Monitor and control nuclear reactors that produce electricity and power ships and submarines
- Operate and maintain stationary engines, such as steam engines, air compressors, and generators
- Operate and maintain auxiliary equipment, such as pumps, fans, and condensers
- Inspect equipment for malfunctions

Helpful Attributes

Helpful school subjects include math and shop mechanics. Helpful attributes include:

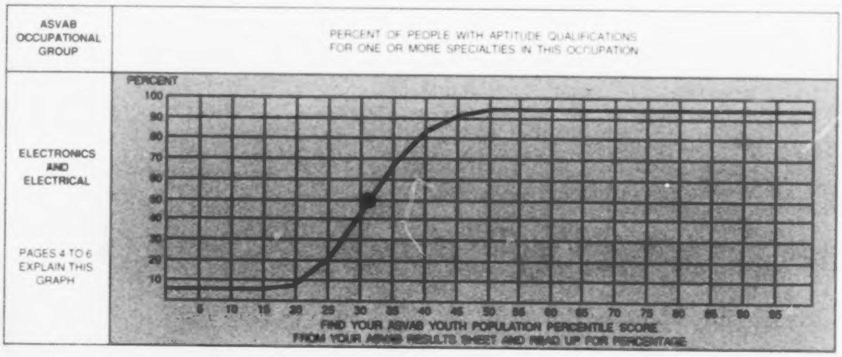
- Interest in working with large machinery
- Interest in nuclear power

Physical Demands

Power plant operators lift heavy parts or tools when maintaining power plants.

Special Qualifications

Successful completion of high school algebra is required for nuclear power plant specialties. Nuclear specialties are open only to men.



Work Environment

Power plant operators usually work indoors. They are subject to high temperatures, dust, and noise.

Training Provided

Job training consists of between 20 and 25 weeks of classroom instruction, including practice in operating power plants. Course content typically includes:

- Operation of pressure boilers
- Operation and maintenance of reactor control system
- Operation and maintenance of mechanical systems on nuclear powered ships and submarines

Nuclear specialties have training programs that last one year or more, covering all aspects of nuclear power plant operations. The Army offers a certified apprenticeship program for non-nuclear power plant operators.

Civilian Counterparts

Civilian power plant operators work for power companies, factories, schools, and hospitals. They perform duties similar to military power plant operators. Depending on specialty, power plant operators may also be called boiler operators, stationary engineers, nuclear reactor operators, or diesel plant operators.

Opportunities

The services have about 25,170 power plant operators. On average, they need about 2,540 new power plant operators each year. After job training, power plant operators work under the close direction of supervisors. With experience, they may gain greater responsibility for plant operations and supervise other operators. Eventually, they may become superintendents of utilities for large bases or chiefs of ships' engineering departments.

PRINTING SPECIALISTS

Army
Navy
Air Force
Marine Corps

The military produces many printed publications each year, including newspapers, booklets, training manuals, maps, and charts. Printing specialists operate printing and binding machines to make finished copies of printed material.

What They Do

Printing specialists in the military perform some or all of the following duties:

- Reproduce printed matter using offset or lithographic printing processes
- Prepare photographic negatives and transfer them to printing plates using copy cameras and enlargers
- Prepare layouts of artwork, photographs, and text for lithographic plates
- Produce brochures, newspapers, maps, and charts
- Bind printed material into hardback or paperback books using binding machines
- Maintain printing machines

Helpful Attributes

Helpful school subjects include shop mechanics. Helpful attributes include:

- Preference for doing physical work
- Interest in learning about printing

Training Provided

Job training consists of between 8 and 20 weeks of classroom instruction, including practice in operating printing machines. Training length varies by specialty. Course content typically includes:

- Photolithography techniques
- Operation of offset presses
- Techniques for making printing plates
- Binding techniques

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs in this occupation.

Work Environment

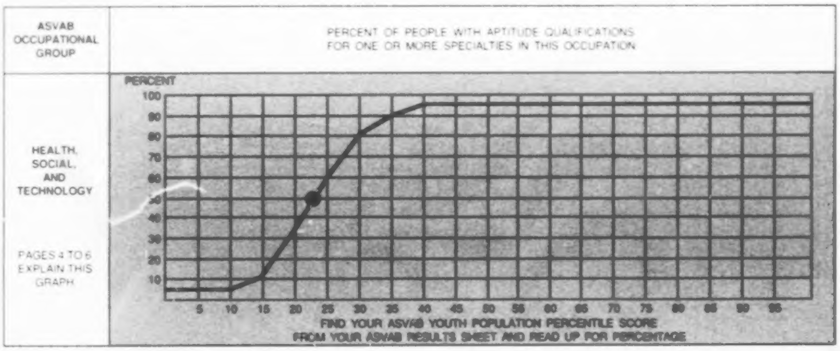
Printing specialists work indoors in print shops and offices located on land or aboard ships.

Civilian Counterparts

Civilian printing specialists work for commercial print shops, newspapers, insurance companies, government offices, or businesses that do their own printing. They perform duties similar to military printing specialists. They may be called offset printing machine operators, lithograph press operators, offset duplicating machine operators, lithograph photographers, or bindery workers.

Opportunities

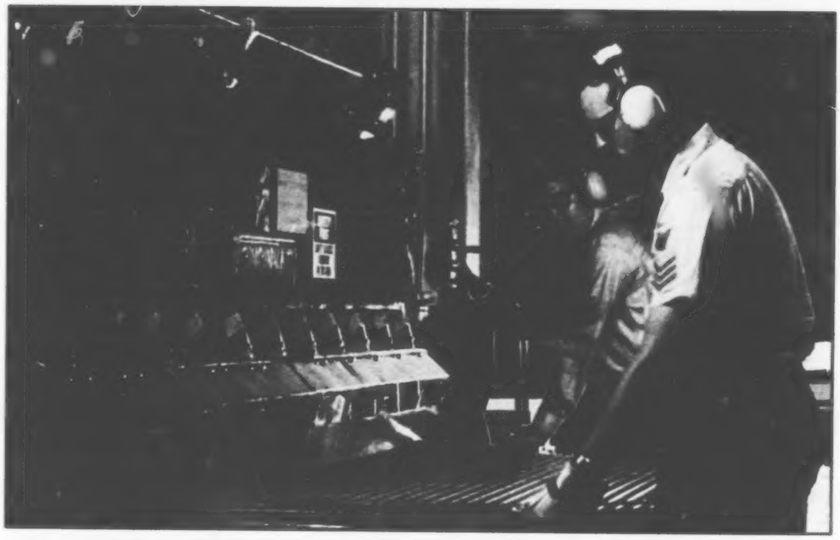
The military has about 2,050 printing specialists. On average, the services need about 250 new specialists each year. After job training, specialists normally operate printing and binding machines under direct supervision. With experience, they work more independently setting up and operating machines. In time, printing specialists may become supervisors of printing plants.



SHEET METAL WORKERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Sheet metal is used as a building material in many military construction projects. Sheet metal workers make and install sheet metal products, such as roofs, air ducts, gutters, and vents. They also make custom parts to repair ships, buildings, and equipment.



What They Do

Sheet metal workers in the military perform some or all of the following duties:

- Read blueprints and lay out work on sheet metal
- Cut metal using shears or tin snips
- Bend metal using breaks or bending rolls
- Solder, weld, rivet, or screw sheet metal parts together
- Smooth seams and edges with files or grinders
- Measure work with calipers, micrometers, and rulers

Helpful Attributes

Helpful school subjects include math, mechanical drawing, and metal working. Helpful attributes include:

- Ability to use hand and power tools
- Preference for doing physical work
- Interest in making and repairing things

Training Provided

Job training consists of between 4 and 8 weeks of classroom instruction, including practice in making and installing sheet metal products. Training length varies depending on specialty. Course content typically includes:

- Sheet metal layout
- Sheet metal duct work
- Use and care of soldering and welding equipment
- Use and care of hand and power tools

Further training occurs on the job. The Army and Marine Corps offer certified apprenticeship programs for this occupation.

Work Environment

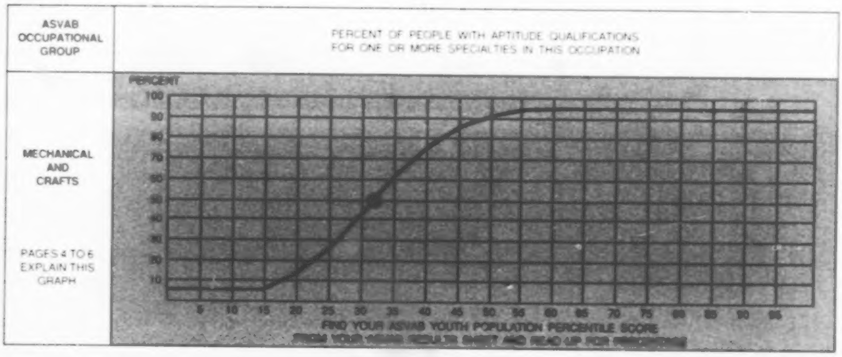
Sheet metal workers work in metal shops on land and aboard ships. They also work outdoors at construction sites.

Civilian Counterparts

Civilian sheet metal workers work for air conditioning contractors, metal repair shops, or construction companies. They perform duties similar to those performed by sheet metal workers in the military. However, civilians usually specialize in certain areas, such as making heating and air conditioning ducts, gutters, or metal roofs.

Opportunities

The services have about 3,200 sheet metal workers. On average, they need about 360 new sheet metal workers each year. After job training, new workers install and repair sheet metal products under the direction of a supervisor. With experience, they work more independently and may help train new workers. In time, sheet metal workers may be promoted to shop supervisors.



SHIPFITTERS

Army
Navy
Coast Guard

Ocean storms, underwater pressure, or combat may cause damage to ships. Shipfitters repair the hulls and other structural parts of ships, submarines, boats, and landing craft.

What They Do

Shipfitters in the military perform some or all of the following duties:

- Inspect hulls, hatches, and decks for leaks
- Weld or rivet metal plates onto hulls and decks to repair damage
- Repair the walls (bulkheads) that separate ship compartments
- Repair holes in small boats by applying fiberglass mixtures
- Smooth patches to match hull shape with hand tools, such as files and sanders
- Apply paint to seal and protect repair work
- Repair hatches and watertight doors

Physical Demands

Shipfitters may have to lift heavy steel plates. They may have to work in crouching or kneeling positions.

Helpful Attributes

Helpful attributes include:

- Preference for doing physical work
- Ability to use hand and power tools
- Ability to remain calm in emergencies

Work Environment

Shipfitters perform most of their work outdoors.

Training Provided

Job training consists of between 10 and 13 weeks of classroom instruction, including practice in ship repair. Course content typically includes:

- Operation of welding, soldering, and brazing equipment
- Blueprint reading
- Hull inspection
- Fiberglass patching

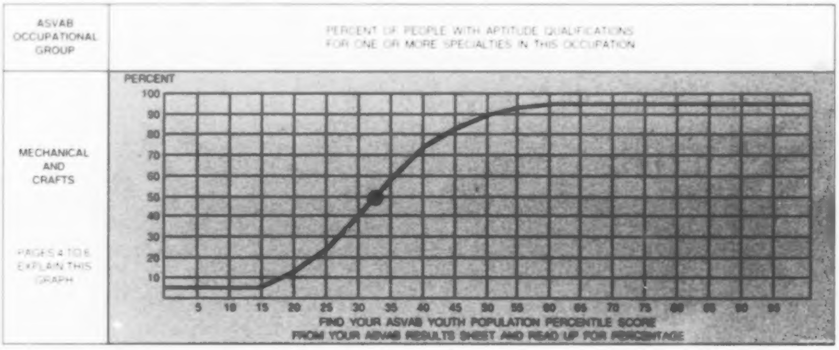
Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program for this occupation.

Civilian Counterparts

Civilian shipfitters work for shipyards, drydock repair firms, or other marine servicing companies. They tend to specialize by size of craft. They perform duties similar to military shipfitters and may also be called marine services technicians.

Opportunities

The services have about 1,890 shipfitters. On average, they need about 190 new shipfitters each year. After job training, shipfitters perform basic welding and patching work under supervision. With experience, they perform more difficult repairs and supervise others. Eventually, shipfitters may become superintendents of ship repair yards.



SURVIVAL EQUIPMENT SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military personnel often have hazardous assignments. They depend on survival equipment to protect their lives in case of emergencies. Survival equipment specialists inspect, maintain, and repair survival equipment, such as parachutes, aircraft life support equipment, and air-sea rescue equipment.

What They Do

Survival equipment specialists in the military perform some or all of the following duties:

- Inspect parachutes for rips and tangled lines
- Pack parachutes for safe operation
- Repair life rafts and load them with emergency provisions
- Test emergency oxygen regulators on aircraft
- Stock aircraft with fire extinguishers, flares, and survival provisions
- Train crews in the use of survival equipment

Helpful Attributes

Helpful school subjects include shop mechanics and science. Helpful attributes include:

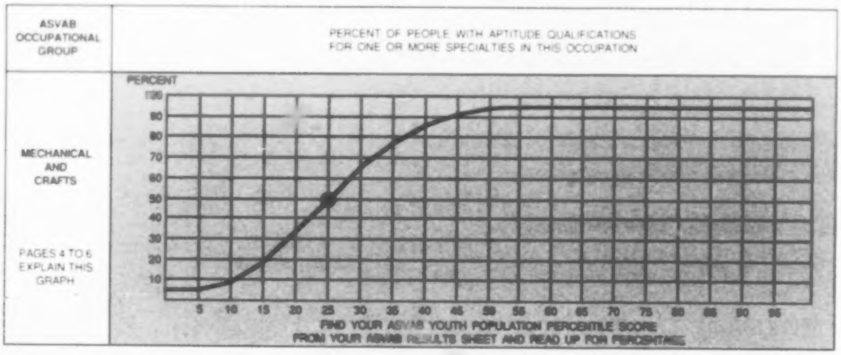
- Interest in working for the safety of others
- Ability to do work requiring accuracy and attention to detail

Training Provided

Job training consists of between 9 and 12 weeks of classroom instruction, including practice in working with survival equipment. Course content typically includes:

- Parachute rigging techniques
- Repair of inflatable rafts and other survival equipment
- Maintenance of oxygen equipment
- Maintenance of air-sea rescue equipment

Further training occurs on the job and through additional courses.



Work Environment

Survival equipment specialists in the military work in repair shops on land or aboard ships.

Civilian Counterparts

Civilian survival equipment specialists work for commercial airlines, parachute rigging and supply companies, survival equipment manufacturing firms, and some government agencies. They perform duties similar to military survival equipment specialists. Those that specialize in parachutes are called parachute riggers.

Opportunities

The military has about 6,950 survival equipment specialists. On average, the services need about 1,000 new specialists each year. After job training, survival equipment specialists work on survival equipment under the close direction of supervisors. With experience, they work with less supervision and perform more challenging tasks. In time, survival equipment specialists may become supervisors assisting in the management of survival equipment repair facilities.

WATER AND SEWAGE TREATMENT PLANT OPERATORS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military bases operate their own water treatment plants when public facilities cannot be used. These plants provide drinking water and safely dispose of sewage. Water and sewage treatment plant operators maintain the systems that purify water and treat sewage.

What They Do

Water and sewage treatment plant operators in the military perform some or all of the following duties:

- Operate pumps to transfer water from reservoirs and storage tanks to treatment plants
- Add chemicals and operate machinery that purifies water for drinking or cleans it for safe disposal
- Test water for chlorine content, acidity, oxygen demand, and impurities
- Regulate the flow of drinking water to meet demand
- Clean and maintain water treatment machinery
- Keep records of chemical treatments, water pressure, and maintenance

Helpful Attributes

Helpful school subjects include chemistry, math, and shop mechanics. Helpful attributes include:

- Interest in working with mechanical equipment
- Interest in chemistry and pollution control

Work Environment

Water and sewage treatment plant operators work indoors and outdoors. They may be exposed to strong odors.

Training Provided

Job training consists of between 8 and 10 weeks of classroom instruction, including practice operating water and sewage treatment equipment. Course content typically includes:

- Operation of treatment systems
- Water testing and analysis
- Maintenance and repair of pumps, compressors, and other equipment

Further training occurs on the job and through advanced courses. The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Civilian Counterparts

Civilian water and sewage treatment plant operators work for municipal public works and industrial plants. Their work is similar to military water and sewage treatment plant operators. Civilian plant operators usually specialize as waterworks pump station operators, water treatment plant operators, or wastewater treatment plant operators.

Opportunities

The services have about 2,700 water and sewage plant operators. On average, they need 470 new plant operators each year. After job training, new operators work under close supervision in water or sewage treatment plants. With experience, they may supervise plant operations. Eventually, they may become base utilities superintendents.

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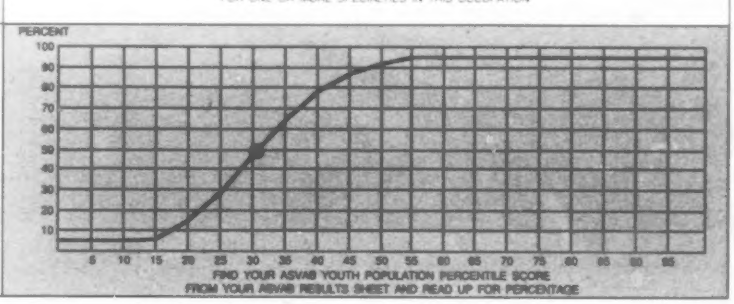
MECHANICAL AND CRAFTS PAGES 4 TO 6 EXPLAIN THIS GRAPH	

WELDERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Ships, tanks, and aircraft are made of heavy metal armor. Many tools, pipes, and other military equipment are also made of metal. To repair this equipment, the military must be able to cut and join metal parts. Welders operate electric and gas welding rigs to cut and join steel, iron, or other metals.

What They Do

Welders in the military perform some or all of the following duties:

- Select welding equipment, torch tips, and fill rods, based on the type of welding to be done
- Weld, braze, or solder metal parts together
- Forge and repair small items and tools
- Connect piping
- Cut away unneeded metal using arc (electric) welders or acetylene (gas) torches
- Clean metal surfaces before welding
- Operate automatic welding machines to connect metal parts

Helpful Attributes

Helpful school subjects include shop mechanics, welding, and mechanical drawing. Helpful attributes include:

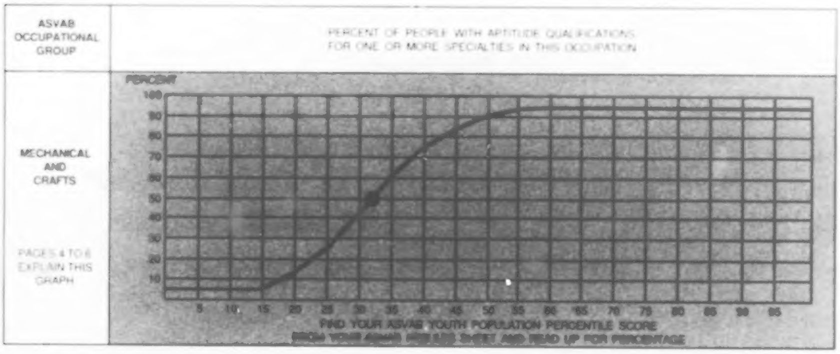
- Preference for doing physical work
- Good eye-hand coordination

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction, including practice in basic welding skills. Course content typically includes:

- Use and care of welding equipment
- Types of welding joints
- Procedures for cutting, brazing, and heat treating

The Army and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.



Work Environment

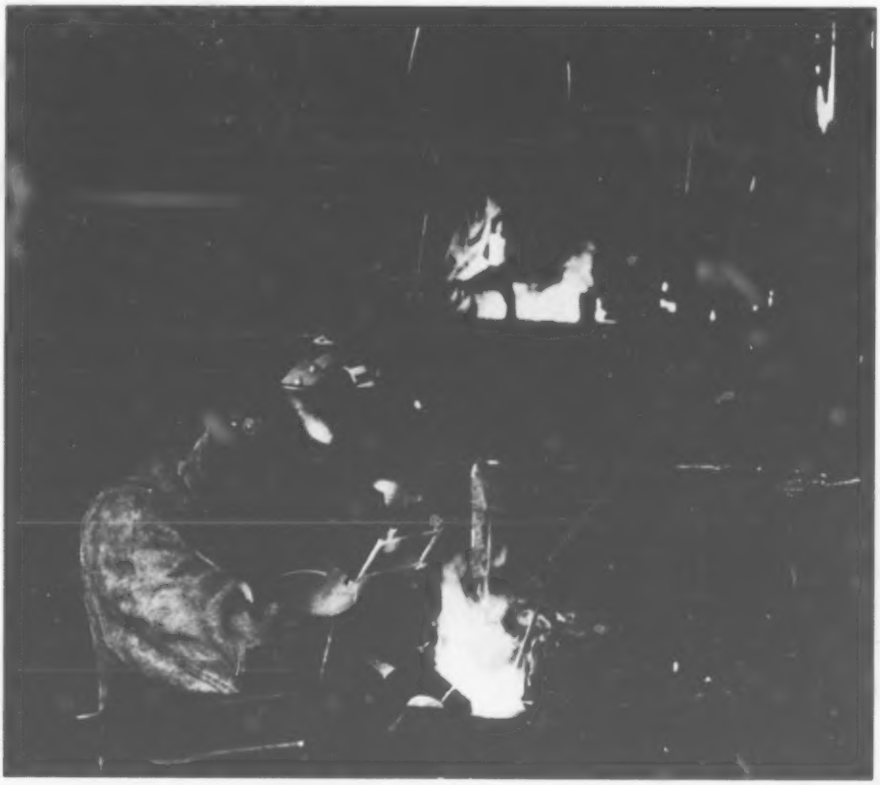
Welders work indoors in metalworking shops and aircraft hangars and outdoors at construction sites or in the field. Welding is sometimes hot work and often involves lifting heavy objects.

Civilian Counterparts

Civilian welders work in many settings, including welding shops, pipeline companies, ship builders, and aircraft manufacturing plants. They perform the same basic duties as welders in the military.

Opportunities

The services have about 6,440 welders. On average, they need about 640 new welders each year. After job training, welders perform simple welds and cuts under close supervision. With experience, they work more independently and perform more complex welding tasks. They may also become supervisors and may eventually become construction superintendents or managers of maintenance depots.



Transportation and Material Handling Occupations

- Air Crew Members
- Aircraft Launch and Recovery Specialists
- Boat Operators
- Cargo Specialists
- Construction Equipment Operators
- Flight Engineers
- Petroleum Supply Specialists
- Quartermasters
- Seamen
- Truck Drivers

AIR CREW MEMBERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses aircraft of all types and sizes to rescue personnel, transport troops and equipment, conduct combat and intelligence missions, and perform long-range bombing missions. Air crew members operate equipment on board aircraft during operations. They normally specialize by type of aircraft, such as bomber, intelligence, transport, or search and rescue.

What They Do

Air crew members in the military perform some or all of the following duties:

- Operate aircraft communication and radar equipment
- Operate and maintain aircraft defensive gunnery systems
- Operate helicopter hoists to lift equipment and personnel from land and sea
- Operate and maintain aircraft in-flight refueling systems

Helpful Attributes

Helpful school subjects include mathematics and mechanics. Helpful attributes include:

- Interest in flying
- Ability to work under stress
- Ability to work as a team member

Training Provided

Job training consists of between 7 and 9 weeks of classroom instruction, including practical experience in aircraft systems operation and maintenance. Course content varies by specialty and may include:

- Operation of aircraft gunnery systems
- Operation of aircraft in-flight refueling systems
- Cargo, munitions, and fuel load planning
- Rescue and recovery operations

Further training occurs on the job through actual flying time. There are additional courses covering air crew survival, scuba diving, parachuting, aircraft maneuvering, and combat crew training.

Special Qualifications

Although there are women air crew members, some specialties in this occupation are open only to men.

Work Environment

Air crew members work inside all sizes and types of aircraft based on land or aboard ships. They fly in all types of weather and in both hot and cold climates.

Civilian Counterparts

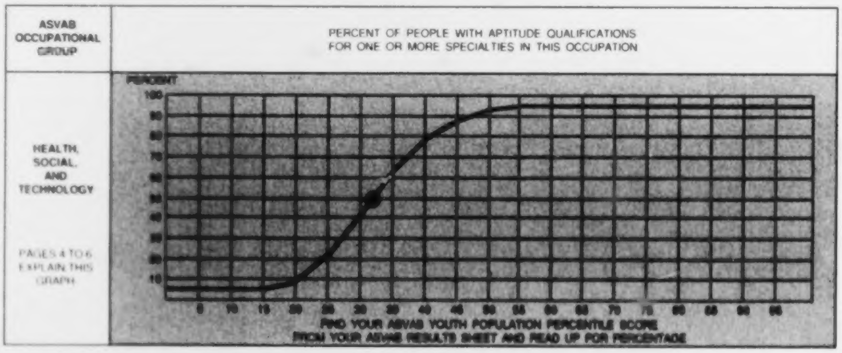
There are no direct civilian equivalents to military air crew members. However, some of the skills gained in the military could be useful in civilian government and private agencies that provide emergency medical services. Also, weight and load computation skills are useful for civilian air transport operations.

Physical Demands

Air crew members must be in excellent physical condition and pass a special physical exam in order to qualify for flight duty. They must be mentally sound and have normal hearing.

Opportunities

The services have about 4,040 air crew members. On average, they need about 400 new air crew members each year. After receiving their "air crew qualified" rating, air crew members are assigned to a flying unit. They may work on one of many types of aircraft under direction of the aircraft commander. With experience, they may supervise and train other enlisted air crew members. They have the opportunity to become air crew chiefs, combat crew chiefs, or supervisors of rescue and recovery units.



AIRCRAFT LAUNCH AND RECOVERY SPECIALISTS

Navy
Marine Corps

The military operates thousands of aircraft that take off and land on aircraft carriers all over the world. The successful launch and recovery of aircraft is important to the completion of air missions and the safety of flight crews. Aircraft launch and recovery specialists operate and maintain catapults, arresting gear, and other equipment used in aircraft carrier takeoff and landing operations.

What They Do

Aircraft launch and recovery specialists in the military perform some or all of the following duties:

- Operate consoles to control launch and recovery equipment, including catapults and arresting gear
- Operate elevators to transfer aircraft between flight and storage decks
- Install and maintain visual landing aids
- Test and adjust launch and recovery equipment using electric and mechanical test equipment and hand tools
- Install airfield crash barriers and barricades
- Direct aircraft launch and recovery operations using hand or light signals
- Maintain logs of airplane launches, recoveries, and equipment maintenance

Special Qualifications

This occupation is not open to women.

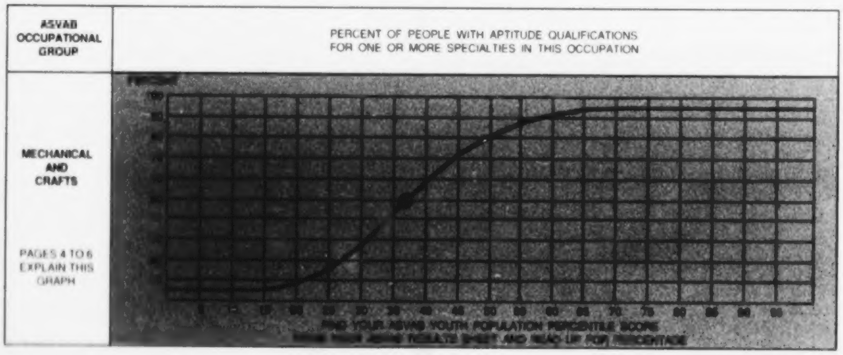
Work Environment

Aircraft launch and recovery specialists work outdoors aboard ships while operating and maintaining launch and recovery equipment or holding visual landing aids for incoming aircraft. They are exposed to noise and fumes from jet and helicopter engines.

Training Provided

Job training consists of between 9 and 13 weeks of classroom instruction, including practice in maintaining launch and recovery equipment. Course content typically includes:

- Operating launch and recovery equipment
- Installing crash barriers and barricades
- Maintaining launch and recovery equipment
- Handling aircraft



Helpful Attributes

Helpful school subjects include shop mechanics. Helpful attributes include:

- Interest in working on hydraulic and mechanical equipment
- Ability to use hand tools and test equipment
- Interest in aircraft flight operations

Civilian Counterparts

There are no direct civilian counterparts to military aircraft launch and recovery specialists. However, many of the skills learned are relevant to jobs performed by ground crews at civilian airports.

Opportunities

The services have about 3,590 aircraft launch and recovery specialists. On average, they need about 870 new specialists each year. After job training, specialists are assigned to an aircraft launch and recovery section aboard an aircraft carrier or at an airfield. Initially, they perform maintenance and repair on equipment, working under close supervision. With experience, they perform more complex operation and maintenance activities. In time, they may train and supervise other aircraft launch and recovery specialists. Eventually, they may supervise activities on carrier flight and storage decks.

BOAT OPERATORS

Army
Navy
Air Force
Coast Guard

The military operates many small boats for amphibious troop landings, harbor patrols, and transportation over short distances. Boat operators pilot many types of small watercraft, including tugboats, PT boats, gunboats, and barges.

What They Do

Boat operators in the military perform some or all of the following duties:

- Direct the course and speed of boats
- Consult maps, charts, weather reports, and navigation equipment
- Pilot tugboats when towing and docking barges and large ships
- Operate amphibious craft during troop landings
- Assist in search and rescue missions
- Maintain boats and deck equipment
- Operate ship-to-shore radios
- Maintain logs of operations

Physical Demands

Boat operators may have to stand for several hours at a time. Some specialties require normal depth perception and hearing.

Helpful Attributes

Helpful school subjects include mathematics. Helpful attributes include:

- Interest in boating
- Ability to follow detailed instructions and read maps

Work Environment

Boat operators work aboard all types of boats and in all types of weather conditions. When not piloting boats, they may work on or below deck cleaning and repairing boats and equipment or overseeing cargo storage. Some boats are operated in combat situations.

Training Provided

Job training consists of between 16 and 22 weeks of classroom instruction including practice in boat operations. Course content typically includes:

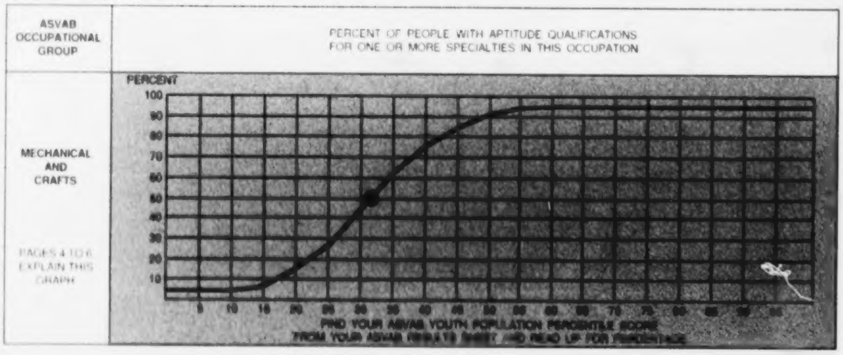
- Boat handling procedures
- Landing craft operations
- Use of compasses, radar, and other navigational aids
- Navigational mathematics

Civilian Counterparts

Civilian boat operators may work for water transportation and towing companies, piloting tugboats, ferries, and other small vessels. They perform duties similar to military boat operators. Depending upon specialty, they may also be called tugboat captains or motorboat operators.

Opportunities

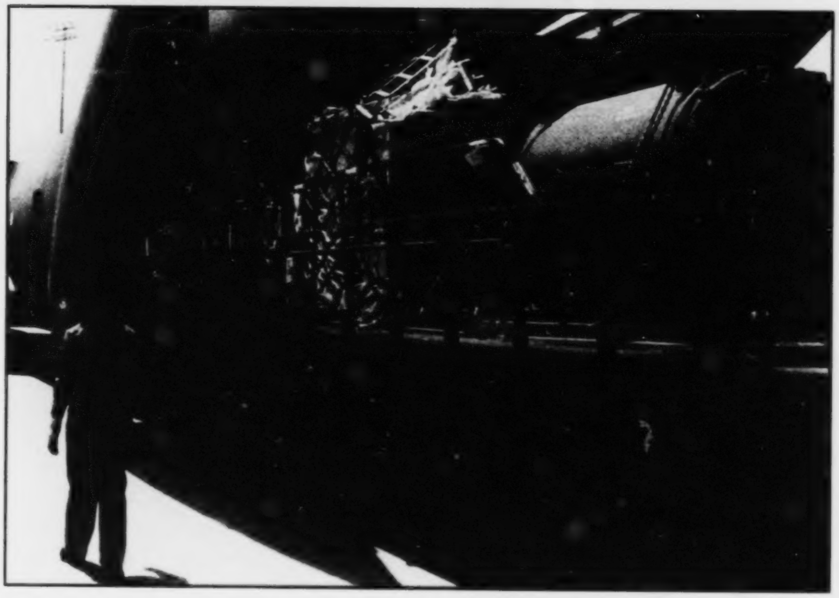
The services have about 1,810 boat operators. On average, they need about 180 new boat operators each year. After job training, new boat operators assist more experienced, enlisted operators in maintaining logs, handling passengers, and keeping charts. After gaining experience, they pilot boats and help train new boat operators.



CARGO SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military delivers supplies, weapons, equipment, and mail to American forces in many parts of the world. Military cargo travels by ship, truck, or airplane. It must be handled carefully to ensure safe arrival at the correct destination. Cargo specialists load and unload military supplies and material using equipment such as forklifts and cranes. They also plan and organize loading schedules.



What They Do

Cargo specialists in the military perform some or all of the following duties:

- Load supplies into trucks, transport planes, and railroad cars using forklifts
- Load equipment such as jeeps, trucks, and weapons aboard ships, using dockyard cranes
- Pack and crate boxes of supplies for shipping
- Inspect cargo for damage
- Plan and inspect loads for balance and safety
- Check cargo against invoices to make sure the amount and destination of material are correct

Physical Demands

Cargo specialists must lift and carry heavy cargo.

Work Environment

Cargo specialists work outdoors on loading docks and indoors in warehouses.

Training Provided

Job training consists of between 2 and 6 weeks of classroom instruction, including practice in loading cargo. Course content typically includes:

- Operation and care of forklifts, power winches, and cranes
- Techniques for loading and storing cargo
- Techniques for planning and scheduling cargo shipments
- Safety procedures for handling potentially dangerous cargo

Further training occurs on the job.

Helpful Attributes

Helpful school subjects include general office and business mathematics. Helpful attributes include:

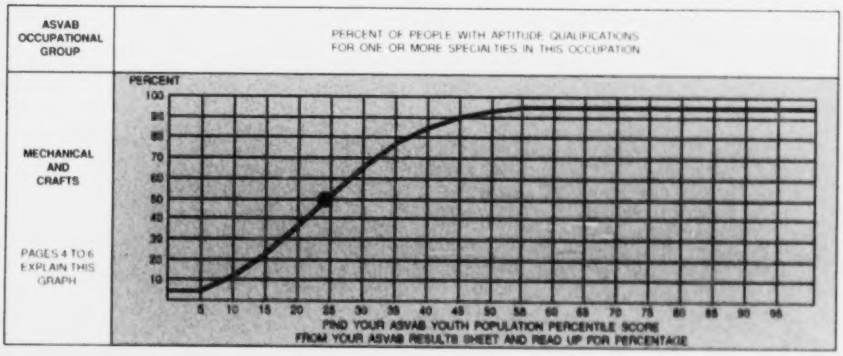
- Interest in working with forklifts and cranes
- Preference for physical work

Civilian Counterparts

Civilian cargo specialists work for trucking firms, air cargo companies, and shipping lines. They perform duties similar to military cargo specialists. Depending on specialty, they may also be called industrial truck operators, stevedores, longshoremen, material handlers, or cargo checkers.

Opportunities

The services have about 6,870 cargo specialists. On average, they need about 1,200 new cargo specialists each year. After job training, cargo specialists work in teams preparing and loading cargo for shipment under the direction of supervisors. In time, they may advance to become team leaders or supervisors of other cargo specialists. Eventually, they may become warehouse managers.



CONSTRUCTION EQUIPMENT OPERATORS

Army
Navy
Air Force
Marine Corps

Each year the military completes hundreds of construction projects. Tons of earth and building materials must be moved to build airfields, roads, dams, and buildings. Construction equipment operators operate bulldozers, cranes, graders, and other heavy equipment used in military construction.

What They Do

Construction equipment operators in the military perform some or all of the following duties:

- Drive bulldozers, roadgraders, and other heavy equipment to cut and level earth for runways and roadbeds
- Lift and move steel and other heavy building materials using winches, cranes, and hoists
- Dig holes and trenches using power shovels
- Remove ice and snow from runways, roads, and other areas using scrapers and snow blowers

Helpful Attributes

Helpful school subjects include shop mechanics. Helpful attributes include:

- Interest in operating heavy construction equipment
- Preference for working outdoors

Training Provided

Job training consists of between 8 and 9 weeks of classroom instruction, including practice operating construction equipment. Course content typically includes:

- Operation of different types of construction equipment
- Maintenance and repair of equipment

Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program for this occupation.

Work Environment

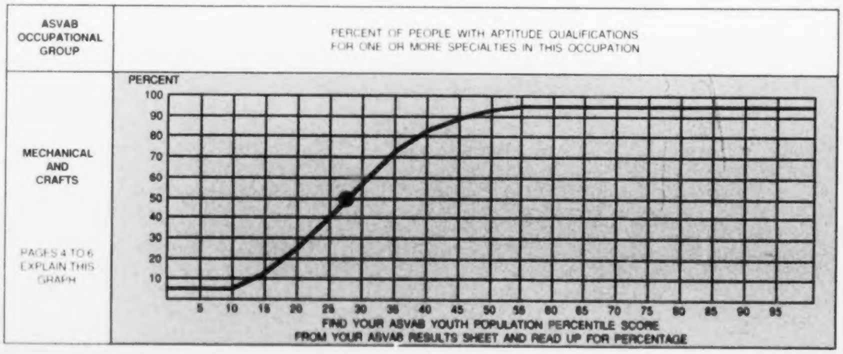
Construction equipment operators work outdoors in all kinds of weather conditions. They often sit for long periods and are subject to loud noise and vibrations.

Civilian Counterparts

Civilian construction equipment operators work for building contractors, state highway agencies, and other large-scale construction firms. They perform duties similar to military construction equipment operators. Civilian construction equipment operators may also be known as operating engineers or heavy equipment operators.

Opportunities

The services have about 9,570 construction equipment operators. On average, they need about 1,780 new construction equipment operators each year. After job training, construction equipment operators work as members of construction crews under the direction of supervisors. They normally gain experience by operating one piece of equipment. With time, they have the opportunity to operate a variety of equipment. Eventually, construction equipment operators have the opportunity to become construction superintendents.



FLIGHT ENGINEERS

Navy
Air Force
Marine Corps
Coast Guard

The military operates thousands of airplanes and helicopters. Pilots and air crew members rely upon trained personnel to keep aircraft ready to fly. Flight engineers inspect airplanes and helicopters before, during, and after flights to ensure safe and efficient operations. They also serve as crew members aboard military aircraft.

What They Do

Flight engineers in the military perform some or all of the following duties:

- Inspect aircraft before and after flights, following pre- and post-flight checklists
- Plan and monitor the loading of passengers, cargo, and fuel
- Assist pilots in engine start-up and shut-down
- Compute aircraft load weights and fuel distribution
- Compute fuel consumption using airspeed data, charts, and calculators
- Monitor engine instruments and adjust engine controls following pilot orders
- Check fuel, pressure, electrical, and other aircraft systems during flight
- Inform pilot of aircraft performance problems and recommend corrective action

Special Qualifications

Although there are women flight engineers in the military, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful school subjects include general mathematics and shop mechanics. Helpful attributes include:

- Skill in using wiring diagrams and maintenance manuals
- Interest in working with mechanical systems and equipment
- Strong desire to fly
- Ability to work as a member of a team

Physical Demands

Flight engineers, like pilots and navigators, have to be mentally alert and physically sound to perform their job. They must be in top physical shape and pass a special physical exam to qualify for flight duty.

Work Environment

Flight engineers live and work on air bases or aboard ships in all areas of the world. They fly in hot and cold climates and in all types of weather.

Training Provided

Job training consists of between 17 and 24 weeks of classroom instruction and practical experience in aircraft inspection. Course content typically includes:

- Operation of electronic, pressure, and fuel systems
- Inspection of aircraft engines, structures, and systems
- Operation of aircraft engine instrument controls
- Preparation of aircraft performance records and logs

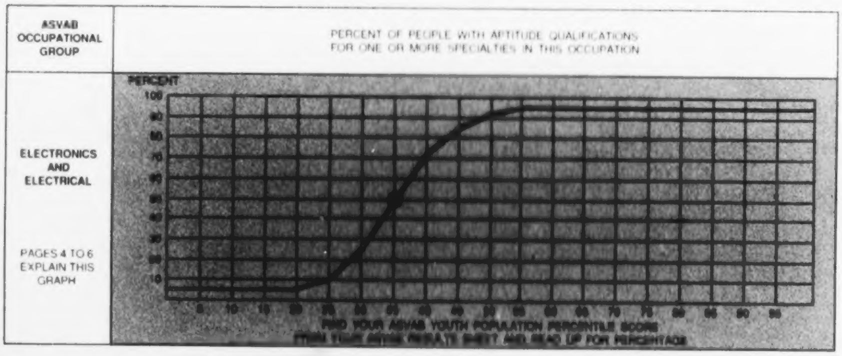
Further training occurs on the job during flight operations.

Civilian Counterparts

Civilian flight engineers work for passenger and cargo airline companies. They perform the same duties as in the military.

Opportunities

The services have about 3,380 flight engineers. On average, they need about 330 new flight engineers each year. After receiving their "air crew qualified" rating, they are assigned to an airplane or helicopter flying unit. With experience, they work more independently and may supervise or train others. They have the opportunity to become flight engineer chiefs or air crew chiefs.



PETROLEUM SUPPLY SPECIALISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Ships, airplanes, trucks, tanks, and other military vehicles require large amounts of fuel and lubricants. These and other petroleum products require special storage and handling. Petroleum supply specialists store and ship petroleum products, such as oil, fuel, compressed gas, and lubricants.

What They Do

Petroleum supply specialists in the military perform some or all of the following duties:

- Connect hoses and valves and operate pumps to load petroleum products into tanker trucks, airplanes, ships, and railroad cars
- Test oils and fuels for pollutants
- Repair pipeline systems, hoses, valves, and pumps
- Check the volume and temperature of petroleum and gases in tankers, barges, and storage tanks
- Prepare storage and shipping records
- Store and move packaged petroleum products using forklifts

Physical Demands

Petroleum supply specialists may have to perform moderate to heavy lifting.

Helpful Attributes

Helpful school subjects include shop mechanics and business math. Helpful attributes include:

- Interest in working with machines and equipment
- Ability to follow spoken instructions
- Preference for physical work

Work Environment

Petroleum supply specialists work outdoors in all types of weather while filling storage tanks and refueling airplanes, ships, and tankers.

Training Provided

Job training consists of between 4 and 8 weeks of classroom instruction, including practice in using petroleum pumping equipment. Course content typically includes:

- Testing oil and fuels
- Operating airplane refueling systems and equipment
- Operating pumps, pipelines, and tanker equipment
- Planning and scheduling petroleum transport
- Safety regulations and procedures for handling dangerous materials

Further training occurs on the job and through advanced courses. The Army offers a certified apprenticeship program for this occupation.

Civilian Counterparts

Civilian petroleum supply specialists work for oil refineries, pipeline companies, and tanker truck and ship lines. They may also refuel airplanes at large airports. They perform many of the same duties as military petroleum supply specialists.

Opportunities

The services have about 12,650 petroleum supply specialists. On average, they need about 2,595 new specialists each year. After training, specialists work in teams while performing oil and fuel pumping operations. Each team works under the direction of a supervisor. With experience, petroleum supply specialists may become team leaders, pipeline or pump station supervisors, or petroleum storage supervisors.

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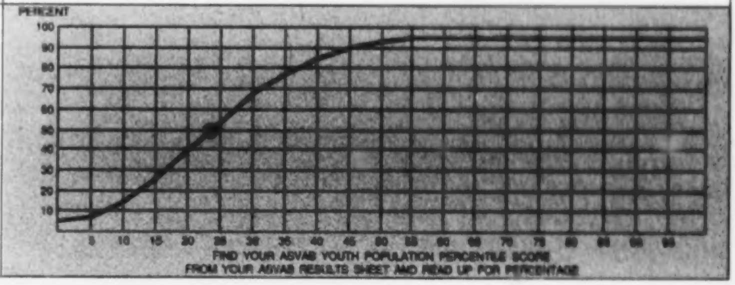
MECHANICAL AND CRAFTS PAGES 4 TO 6 EXPLAIN THIS GRAPH	

QUARTERMASTERS

Army
Navy
Coast Guard

Navigation allows ships to be steered safely across oceans and into small harbors. Quartermasters navigate ships. They chart courses, steer ships, and take navigational readings.

What They Do

Quartermasters perform some or all of the following duties:

- Plot ship courses
- Announce course to helmsman
- Steer ships and boats
- Take readings from compasses, stars, and satellites
- Take radar bearings and depth soundings
- Calculate speed, fuel consumption, and distance traveled
- Study nautical charts showing tides, currents, and hazards
- Keep ship logs

Physical Demands

Quartermasters may have to stand for several hours at a time. They must be able to speak clearly.

Work Environment

Quartermasters work aboard ships and boats. When ashore, they may work in offices that make nautical maps or in harbor management offices.

Helpful Attributes

Helpful school subjects include mathematics. Helpful attributes include:

- Ability to work with mathematical formulas
- Ability to follow detailed instructions and read maps
- Interest in sailing and navigation

Civilian Counterparts

Civilian quartermasters work for shipping and cruise lines. They perform duties similar to military quartermasters. Depending upon specialty, they may also be called helmsmen, navigators, or pilots.

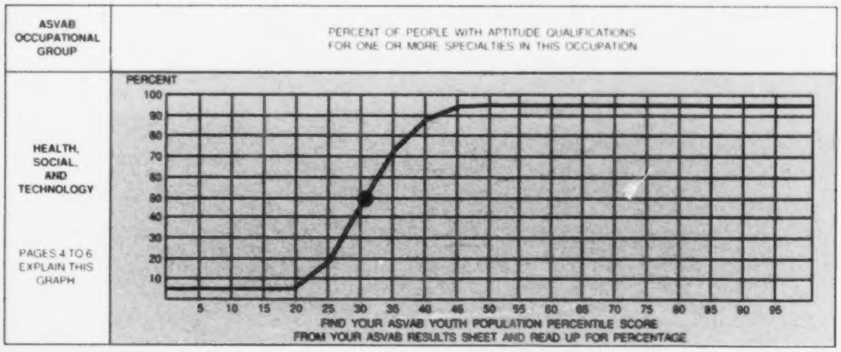
Training Provided

Although classroom training of between 6 and 12 weeks is provided, quartermasters learn mainly through practice on the job. Course content and length varies by service and specialty and may include:

- Use of charts, compasses, and other navigational aids
- Navigational mathematics
- Log and message handling procedures

Opportunities

The services have about 4,320 quartermasters. On average, they need about 430 new quartermasters each year. After job training, new quartermasters assist experienced supervisors, maintain ship logs, handle messages, and keep charts. With experience, they perform more difficult tasks, such as operating navigational equipment and calculating ship position. In time, they may steer the ship while on the open sea or docking. Eventually, quartermasters may become responsible for supervising operations on ships' bridges.



SEAMEN

Army
Navy
Air Force
Coast Guard

All ships must have teams of individuals with "jack-of-all-trades" skills who make things run smoothly above deck. Seamen perform many duties to help operate and maintain military ships, boats, and submarines.

What They Do

Seamen in the military perform some or all of the following duties:

- Operate hoists, cranes, and winches to load cargo or set gangplanks
- Operate and maintain on-deck equipment and ship rigging
- Supervise firefighting and damage control exercises
- Handle lines to secure vessels to wharves or other ships
- Stand watch for security, navigation, or communications
- Supervise crews painting and maintaining decks and sides of ships

Physical Demands

Seamen may have to climb ships' rigging and perform work at heights. Their work often involves moderate to heavy lifting.

Helpful Attributes

Helpful school subjects include mathematics and shop mechanics. Helpful attributes include:

- Ability to work closely with others
- Interest in sailing and being at sea
- Preference for physical work

Work Environment

Seamen and deckhands work aboard all types of ships and submarines. On ships, they often work outdoors on deck while servicing shipboard equipment.

Training Provided

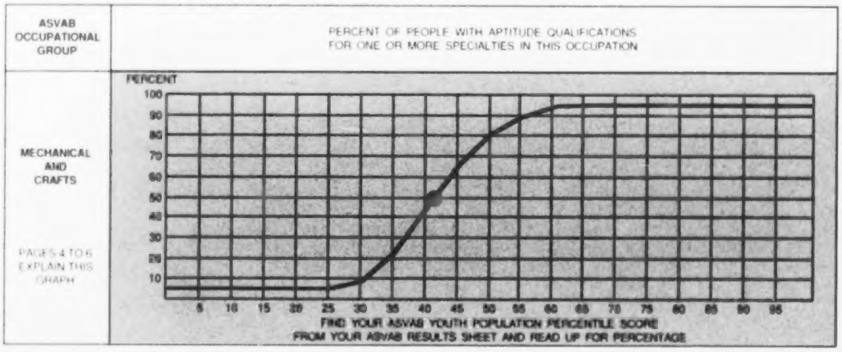
Although classroom training of between 6 and 12 weeks is provided to seamen, most training occurs on the job. Training programs vary depending on service and specialty.

Civilian Counterparts

Civilian seamen work primarily for shipping companies, sometimes called the Merchant Marine. They also work for cruise ship lines. They perform many duties similar to military seamen. They are called able seamen, deckhands, or boatswains.

Opportunities

The services have about 95,000 seamen. On average, the services need about 55,000 new seamen each year. New seamen work together on teams led by experienced supervisors. Through practice, they learn the many tasks they must perform. In time, seamen supervise one or more teams. Eventually, they may become managers responsible for planning and directing the work of many seamen. Often, seamen receive additional training that prepares them for other occupations in their service.



TRUCK DRIVERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses trucks and buses to transport its troops, equipment, and supplies. Together, the services own and operate about 50,000 heavy trucks and buses. Truck drivers operate all types of heavy military vehicles. They drive fuel or water tank trucks, semi-tractor trailers, heavy troop transports, and passenger buses.

What They Do

Truck drivers in the military perform some or all of the following duties:

- Read travel instructions to determine travel routes, arrival dates, and types of cargo
- Make sure vehicles are loaded properly
- Check oil, fuel and other fluid levels, and tire pressure
- Drive vehicles over all types of roads, traveling alone or in convoys
- Keep records of mileage driven and fuel and oil used
- Wash vehicles and perform routine maintenance and repairs

Helpful Attributes

Helpful school courses include driver education. Helpful attributes include:

- Interest in trucks and truck driving
- Interest in mechanics

Training Provided

Job training consists of between 7 and 8 weeks of classroom instruction, including practice in driving trucks. Course content typically includes:

- Accident prevention
- Safety check procedures
- International road signs
- Basic vehicle maintenance

Work Environment

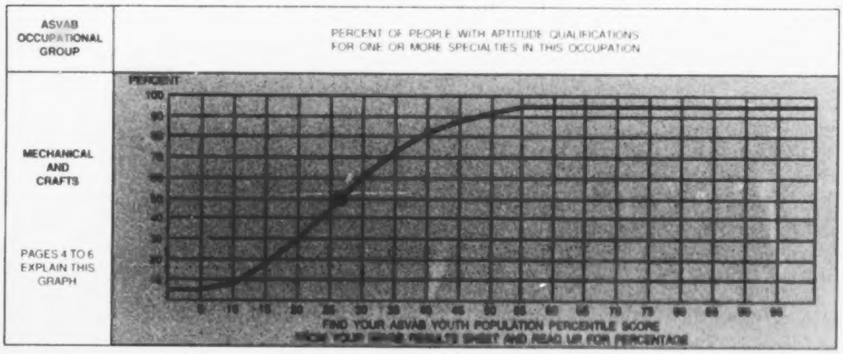
Truck and bus driving involves long periods of sitting. Drivers sometimes must change heavy tires.

Civilian Counterparts

Civilian truck drivers work for trucking companies, moving companies, bus companies, and businesses with their own delivery fleets. They perform duties similar to military truck drivers. They may specialize as tractor-trailer truck drivers, tank truck drivers, heavy truck drivers, or bus drivers.

Opportunities

The services have about 31,800 truck drivers. On average, they need about 6,600 new truck drivers each year. After job training, truck drivers are assigned to motor pools or motor transport units. They generally work without close supervision. In time, truck drivers may advance to supervisory positions assisting in the management of motor transport units.



Combat Specialty Occupations

- Artillery Crew Members
- Combat Engineers
- Infantrymen
- Special Operations Forces
- Tank Crew Members

ARTILLERY CREW MEMBERS

Army
Navy
Marine Corps
Coast Guard

Artillery includes weapons that fire large shells or missiles. The military uses artillery to support infantry and tank units in combat. Artillery is also used to protect land and sea forces from air attack. Artillery crew members position, direct, and fire artillery guns, cannons, howitzers, missiles, and rockets to destroy enemy positions and aircraft. They normally specialize by type of artillery.

What They Do

Artillery crew members in the military perform some or all of the following duties:

- Determine target location using computers or manual calculations
- Set up and load artillery weapons
- Prepare ammunition, fuses, and powder for firing
- Fire artillery weapons according to instructions from artillery officers
- Clean and maintain artillery weapons
- Drive trucks and self-propelled artillery

Helpful Attributes

Helpful attributes include:

- Ability to work as a member of a team
- Interest in cannon and rocket operations
- Ability to perform a wide variety of duties

Special Qualifications

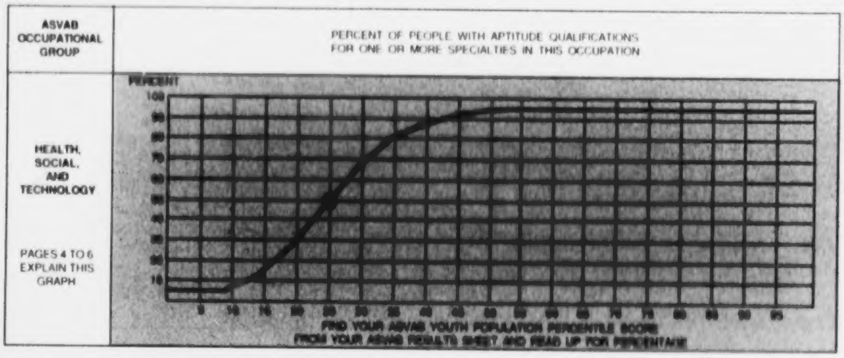
This occupation is not open to women.

Training Provided

Job training consists of between 10 and 14 weeks of classroom instruction and field training under simulated combat conditions. Course content typically includes:

- Methods of computing target locations
- Ammunition handling techniques
- Gun, missile, and rocket system operations
- Artillery tactics

Further training occurs on the job and through advanced courses.



Physical Demands

Artillery crew members must have physical stamina to perform strenuous activities for long periods without rest.

Work Environment

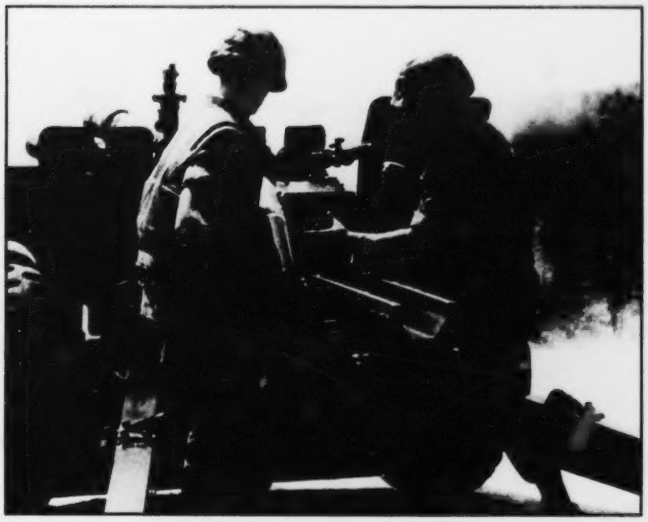
Artillery crew members work outdoors when on land maneuvers. Some work in sheltered fire control stations. At sea, they mainly work below deck.

Civilian Counterparts

Although the job of artillery crew member has no equivalent in civilian life, the close teamwork, discipline, and leadership experiences it provides are helpful in many civilian jobs.

Opportunities

The services have about 65,400 artillery crew members. On average, they need about 12,900 new crew members each year. After job training, new crew members work as part of an artillery team. Leadership ability and job performance are the most important factors for advancement in the artillery field. Those with leadership potential may assume supervisory positions. In time, they may lead gun crews or supervise firing batteries consisting of several large guns or missiles.



COMBAT ENGINEERS

Army
Marine Corps

Combat situations often require rapid travel across difficult terrain and swift-flowing rivers. A combination of combat ability and building skill is necessary to do field construction for fighting forces.

What They Do

Combat engineers perform some or all of the following duties:

- Construct trails, roads, and temporary shelters
- Erect floating or prefabricated bridges
- Lay and clear mine fields and booby traps
- Construct field fortifications, such as bunkers and gun emplacements
- Erect camouflage and other protective barriers for artillery and troop positions
- Load, unload, and move supplies and equipment, using planes, helicopters, trucks, and amphibious vehicles
- Construct airfields and perform ground traffic control duties
- Participate in combat operations as infantrymen

Physical Demands

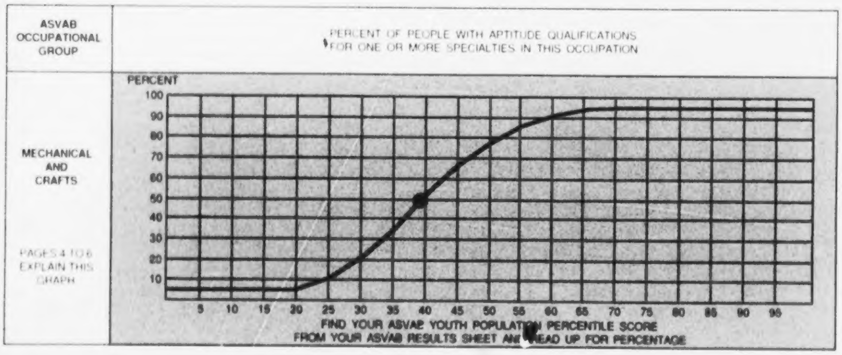
Combat engineers must meet very demanding physical requirements. They need agility and balance and must be able to perform strenuous physical activities over long periods of time. Combat engineers lift and move heavy objects. Some specialties require good swimming abilities.

Special Qualifications

This occupation is not open to women.

Work Environment

Because combat engineers must be prepared to support operations anywhere in the world, they work and train for long hours under all kinds of weather conditions and in all climates. Combat engineers work, eat, and sleep outdoors during training exercises and in real combat situations. Most of the time, combat engineers are assigned to military bases.



Helpful Attributes

Helpful school subjects include mathematics, general science, and industrial arts. Helpful attributes include:

- Ability to use hand and power tools
- Ability to think and remain calm under stress
- Preference for working outdoors

Training Provided

Job training for combat engineers is mainly provided on the job. On-the-job training consists of manual work in a variety of construction projects covering the following:

- Basic construction methods
- Bridge building
- Road maintenance and repair
- Rough carpentry and rigging
- Use of hand and power tools

The Marine Corps offers a 6-week course in basic combat engineering skills. Combat training in infantry skills is also provided to combat engineers.

Civilian Counterparts

Although the job of combat engineer has no direct equivalent in civilian life, experience as a combat engineer is related to occupations in several civilian fields. These include the logging, mining, construction, shipping, and landscaping industries. Civilians in these jobs are called forestry aides, loggers, blasters, and construction workers.

Opportunities

The military has about 21,380 combat engineers. On average, the services need about 4,240 new combat engineers each year. After basic training, combat engineers are assigned to jobs requiring the application of basic skills and use of common construction tools. After gaining knowledge and improving skills, they may be selected for additional training in various construction specialties, such as road and bridge building. Eventually, they may supervise others and assist in managing engineering units.

INFANTRYMEN

Army
Marine Corps

The infantry is the main land combat force of the military. In peacetime, the infantry's role is to stay ready to defend our country. In combat, the role of the infantry is to capture or destroy enemy ground forces and repel enemy attacks. Infantrymen operate weapons and equipment to engage and destroy enemy ground forces.

What They Do

Infantrymen perform some or all of the following duties:

- Operate, clean, and store automatic weapons, such as rifles and machine guns
- Parachute from troop transport airplanes while carrying weapons and supplies
- Fire armor-piercing missiles from hand-held antitank missile launchers
- Carry out scouting missions to spot enemy troop movements and gun locations
- Operate two-way radios and signal equipment to relay battle orders
- Drive vehicles mounted with machine guns or small missiles
- Perform hand-to-hand combat drills that involve martial arts tactics
- Set firing angles and fire mortar shells at targets
- Dig foxholes, trenches, and bunkers for protection against attacks

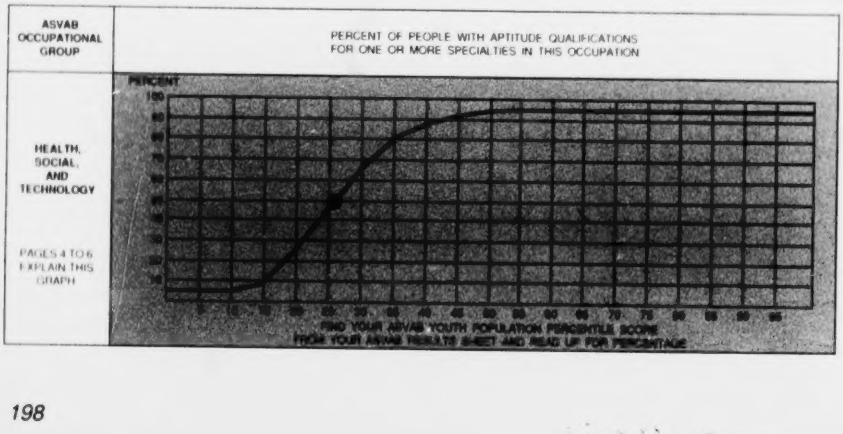
Special Qualifications

This occupation is not open to women.

Helpful Attributes

Helpful attributes include:

- Readiness to accept a challenge and face danger
- Ability to stay in top physical condition
- Interest in working as a member of a team



Physical Demands

The infantry has very demanding physical requirements. Infantrymen must perform strenuous physical activities, such as marching while carrying equipment, digging foxholes, and climbing over obstacles.

Work Environment

Because infantrymen must be prepared to go anywhere in the world they are needed, they work and train in all climates and weather conditions. During training exercises, as in real combat, infantrymen work, eat, and sleep outdoors. Most of the time, however, infantrymen work on military bases.

Training Provided

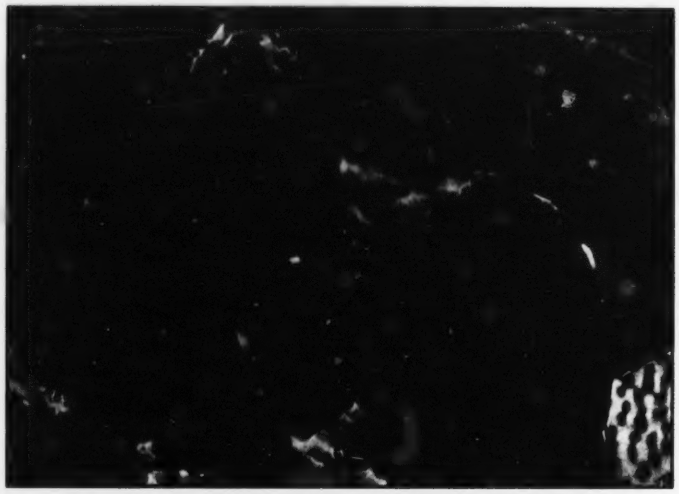
Infantry training starts with basic training of about 7 or 8 weeks. Advanced training in infantry skills lasts for another 8 weeks. While some of the training is in the classroom, most is in the field under simulated combat conditions. In reality, training for an infantry soldier never stops. Infantry soldiers keep their skills sharp through frequent squad maneuvers, target practice, and war games. War games conducted without live ammunition allow soldiers to practice scouting, troop movement, surprise attack, and capturing techniques.

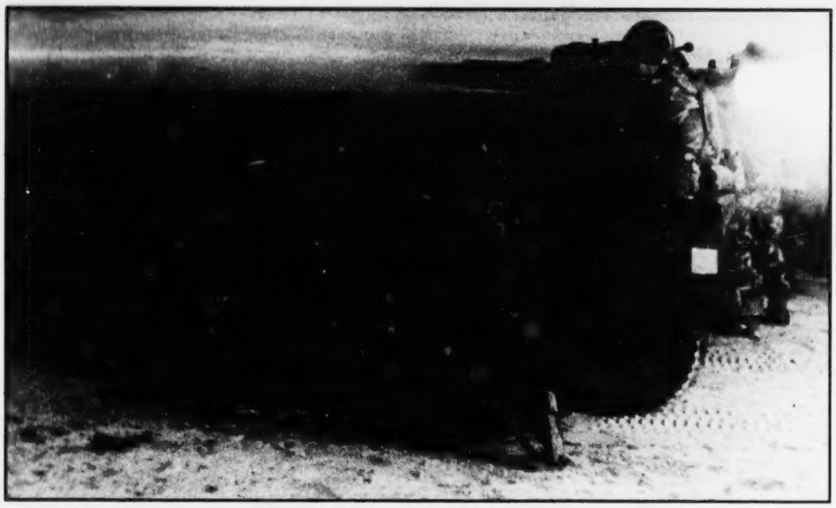
Civilian Counterparts

Although the job of infantrymen has no equivalent in civilian life, the close teamwork, discipline, and leadership experiences it provides are helpful in many civilian jobs.

Opportunities

The military has about 114,320 infantrymen. On average, the services need about 22,700 new infantrymen each year. Leadership ability and job performance are the main factors for advancement in the infantry. Those who have the ability to motivate, train, and supervise others assume greater responsibility. As infantrymen advance in their careers, they become more involved in planning and supervision.





SPECIAL OPERATIONS FORCES

Army
Navy
Air Force
Marine Corps

When the military has difficult and dangerous missions to perform, they call upon special operations teams. These elite combat forces stay in a constant state of readiness to strike anywhere in the world on a moment's notice. Special operations forces team members conduct offensive raids, demolitions, intelligence, search and rescue, and other missions from aboard aircraft, helicopters, ships, or submarines. Due to the wide variety of missions, special operations forces team members are trained swimmers, parachutists, and survival experts, in addition to being combat trained.

What They Do

Special operations forces team members in the military perform some or all of the following duties:

- Go behind enemy lines to recruit, train, and equip friendly forces for guerrilla raids
- Carry out demolition raids against enemy military targets, such as bridges, railroads, and fuel depots
- Clear mine fields, both underwater and on land
- Conduct missions to gather intelligence information on enemy military forces
- Conduct offensive raids or invasions of enemy territories
- Destroy enemy ships in coastal areas, using underwater explosives

Special Qualifications

This occupation is not open to women.

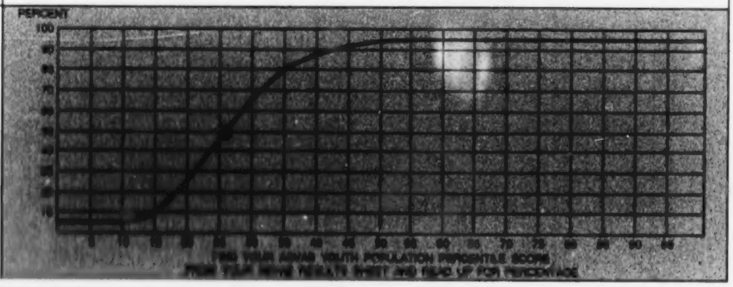
Physical Demands

The special operations forces have very demanding physical requirements. Good eyesight, night vision, and physical conditioning are required to reach mission objectives by parachute, overland, or underwater. Also required is excellent hand-eye coordination to detonate or deactivate explosives. In most instances, special operations forces team members are required to be qualified divers, parachutists, and endurance runners.

Helpful Attributes

Helpful attributes include:

- Ability to work as a team member
- Readiness to accept a challenge and face danger
- Ability to stay in top physical condition
- Ability to remain calm in stressful situations

ASVAB OCCUPATIONAL GROUP	PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION
HEALTH, SOCIAL, AND TECHNOLOGY PAGES 4 TO 6 EXPLAIN THIS GRAPH	

Work Environment

Because special operations forces team members must be prepared to go anywhere in the world they are needed, they train and work in all climates, weather conditions, and settings. They may dive from submarines or small underwater craft. Special forces team members may also be exposed to harsh temperatures, often without protection, during missions in enemy-controlled areas. Most of the time, however, they work and train on military bases or ships and submarines.

Training Provided

Job training consists of up to 72 weeks of formal classroom training and practice exercises. Course content typically includes:

- Physical conditioning, parachuting, swimming, and scuba diving
- Using land warfare weapons and communications devices
- Handling and using explosives
- Bomb and mine disposal

Additional training occurs on the job. Basic skills are kept sharp through frequent practice exercises under simulated mission conditions.

Civilian Counterparts

Although the job of special operations forces team members has no equivalent in civilian life, training in explosives, bomb disposal, scuba diving, and swimming may be helpful in such civilian jobs as blaster, police bomb disposal specialist, diver, or swimming instructor. The discipline and dependability of special operations forces are assets in many civilian occupations.

Opportunities

The services have about 6,100 special operations team members. On average, they need about 1,430 new team members each year. After training, new team members practice their skills under close supervision. With experience, they may supervise and train other team members. They may also work alone on certain missions. Eventually, they may become team leaders.

TANK CREW MEMBERS

Army
Marine Corps

In peacetime, the role of tank and armor units is to stay ready to defend our country anywhere in the world. In combat, their role is to operate tanks and amphibious assault vehicles to engage and destroy the enemy. Tanks also conduct scouting missions and support infantry units during combat. Tank crew members work as a team to operate armored equipment and fire weapons to destroy enemy positions. Tank crew members normally specialize by type of armor, such as tank or amphibious assault vehicle.

What They Do

Tank crew members in the military perform some or all of the following duties:

- Drive tanks or amphibious assault vehicles in combat formations over roadways, rough terrain, and in heavy surf
- Operate target sighting equipment to aim guns
- Load and fire guns
- Operate two-way radios and signaling equipment to receive and relay battle orders
- Gather and report information about the terrain, enemy strength, and target location
- Perform preventive maintenance on tanks, guns, and equipment
- Read maps, compasses, and battle plans

Special Qualifications

This occupation is not open to women.

Physical Demands

Tank crew members must be in good physical condition and have exceptional stamina. They must be able to work inside the confined area of a tank for long periods of time. Good vision is required in order to read maps, drive vehicles around obstacles, and locate targets.

Helpful Attributes

Helpful attributes include:

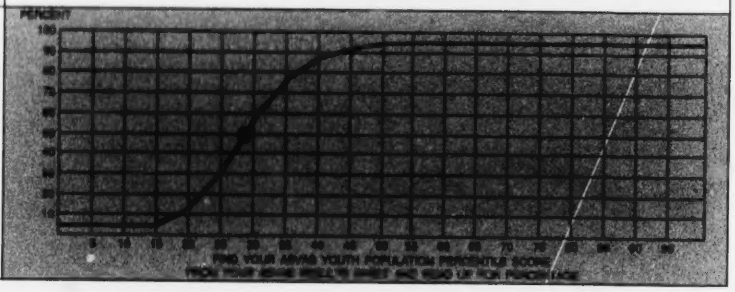
- Ability to work as a member of a team
- Readiness to accept a challenge and face danger
- Ability to follow directions and execute orders quickly and accurately

ASVAB OCCUPATIONAL GROUP

PERCENT OF PEOPLE WITH APTITUDE QUALIFICATIONS FOR ONE OR MORE SPECIALTIES IN THIS OCCUPATION

HEALTH, SOCIAL, AND TECHNOLOGY

PAGES 4 TO 6 EXPLAIN THIS GRAPH



Work Environment

Tank crew members, like other combat troops, work in all climates and weather conditions. During training exercises, as in real combat conditions, tank crew members work, eat, and sleep outdoors and in tanks.

Training Provided

Job training consists of between 6 and 9 weeks of classroom and field training under simulated combat conditions. Course content typically includes:

- Tank operations
- Armor offensive and defensive tactics
- Tank gunnery
- Map reading
- Scouting techniques

Further training occurs on the job and through training exercises. Tank crews often take part in war games, which simulate combat conditions. They divide into teams and practice battle tactics on military exercise ranges. Instead of firing live ammunition, tanks "shoot" harmless light beams at one another to determine war game victors.

Civilian Counterparts

Although the job of tank crew member has no equivalent in civilian life, the close teamwork, discipline, and leadership experiences it provides are helpful in many civilian jobs.

Opportunities

The services have about 26,060 tank crew members. On average, they need about 5,600 new tank crew members each year. After job training, new tank crew members help operate weapons and control their armored vehicles. Leadership potential and job performance are the most important factors for advancement in this field. In time, crew members may become tank or vehicle commanders.

Military Officer Occupations

How to Read the Officer Occupational Descriptions

The purpose of the *Military Career Guide* is to introduce students, parents, and counselors to the military world of work. The guide can be used to explore the many employment and training opportunities available in the enlisted and officer forces of the Army, Navy, Air Force, Marine Corps, and Coast Guard.

The *Military Career Guide* contains descriptions of 205 military occupations. This section contains descriptions of 71 officer occupations. Each officer description has standard sections, as shown in the example on the opposite page. An explanation for each section of the description is also provided.

When reading any of the 71 officer occupational descriptions, remember that it is a summary of similar job specialties across all of the military services. For example, the Air Traffic Control Managers description in the sample represents nine distinct job specialties in four services involving air traffic control. Therefore, individual job specialties may differ somewhat from the general occupations described in this book. If you are interested in learning more about a particular service or occupation, you should contact a recruiter for details.

Occupational Title

The occupational title names the military occupation. An alphabetical listing of titles is in the index beginning on page 366.

What They Do

"What They Do" describes the main work activities performed by workers in the occupation. Because job specialties vary from one service to another, some of the activities listed may not apply to all services.

Special Qualifications

Special qualifications must be met to enter certain occupations. College degree requirements, professional certifications and licenses are examples of special qualifications. This section also identifies combat occupations from which women are excluded by law.

Summary

"Summary" contains background information about the military occupation.

Physical Demands

Some military occupations place physical demands on workers. For example, strength for moderate or heavy lifting is a common physical demand noted in the *Military Career Guide*. Other physical demands include running, climbing, swimming, clear speech, and special vision requirements.

Helpful Attributes

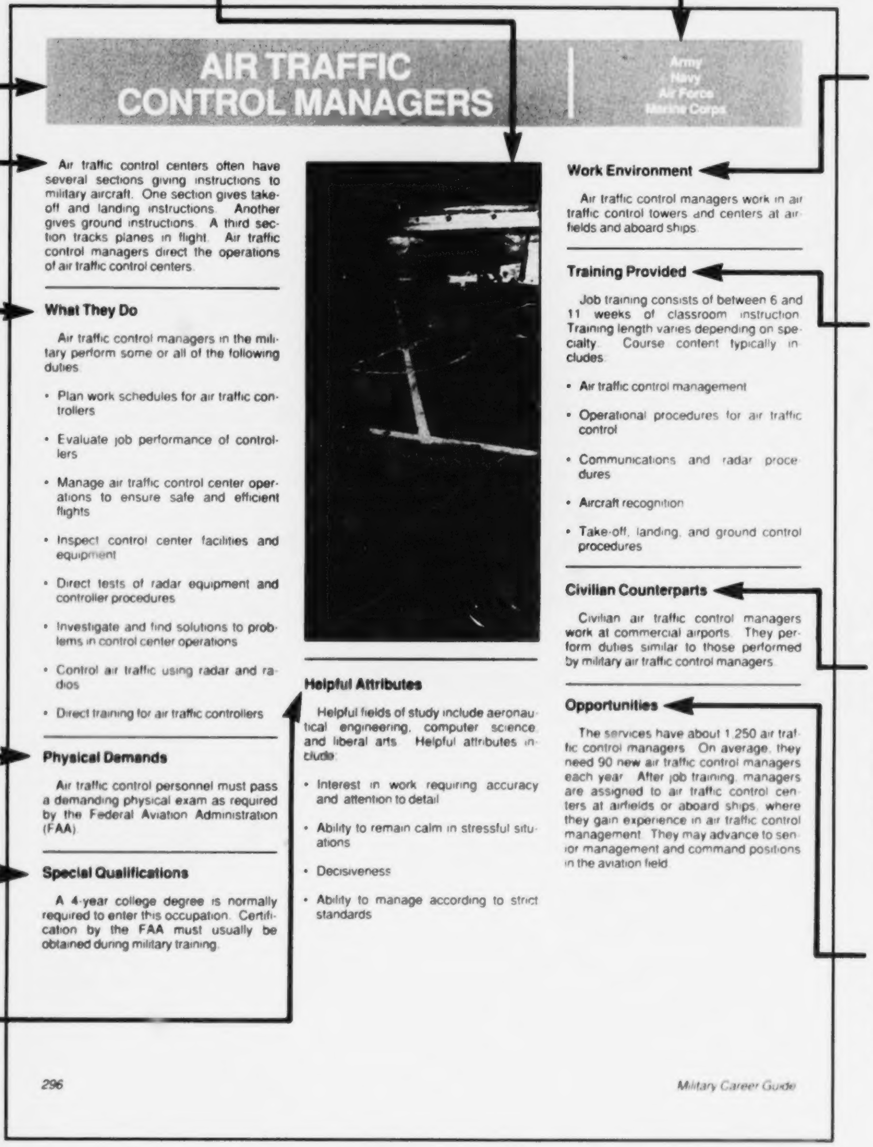
"Helpful Attributes" include interests, fields of college study, experience, and other personal characteristics that may be helpful for training and working in the military occupation. These are not requirements.

Photograph

One or more photographs are included to illustrate the job duties performed.

Military Service Representation

The military services listed next to the title offer employment and training opportunities in the occupation. Not all services offer every occupation described in the *Military Career Guide*.



AIR TRAFFIC CONTROL MANAGERS

Army
Navy
Air Force
Marine Corps

Air traffic control centers often have several sections giving instructions to military aircraft. One section gives take-off and landing instructions. Another gives ground instructions. A third section tracks planes in flight. Air traffic control managers direct the operations of air traffic control centers.

What They Do

Air traffic control managers in the military perform some or all of the following duties:

- Plan work schedules for air traffic controllers
- Evaluate job performance of controllers
- Manage air traffic control center operations to ensure safe and efficient flights
- Inspect control center facilities and equipment
- Direct tests of radar equipment and controller procedures
- Investigate and find solutions to problems in control center operations
- Control air traffic using radar and radios
- Direct training for air traffic controllers

Physical Demands

Air traffic control personnel must pass a demanding physical exam as required by the Federal Aviation Administration (FAA).

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Certification by the FAA must usually be obtained during military training.

Helpful Attributes

Helpful fields of study include aeronautical engineering, computer science, and liberal arts. Helpful attributes include:

- Interest in work requiring accuracy and attention to detail
- Ability to remain calm in stressful situations
- Decisiveness
- Ability to manage according to strict standards

Work Environment

Air traffic control managers work in air traffic control towers and centers at airfields and aboard ships.

Training Provided

Job training consists of between 6 and 11 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Air traffic control management
- Operational procedures for air traffic control
- Communications and radar procedures
- Aircraft recognition
- Take-off, landing, and ground control procedures

Civilian Counterparts

Civilian air traffic control managers work at commercial airports. They perform duties similar to those performed by military air traffic control managers.

Opportunities

The services have about 1,250 air traffic control managers. On average, they need 90 new air traffic control managers each year. After job training, managers are assigned to air traffic control centers at airfields or aboard ships, where they gain experience in air traffic control management. They may advance to senior management and command positions in the aviation field.

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Military Career Guide

Work Environment

"Work Environment" describes the typical work settings and conditions for the occupation. Work settings may be indoors or outdoors, on land, aboard ship, or in aircraft.

Training Provided

The military provides job training for most of its new officers. Most job training is provided in a classroom setting. For some occupations, training is provided on the job. In "Training Provided," the length of training and course content are summarized. Course content and length of training may vary for each service.

Civilian Counterparts

Most military occupations are comparable to one or more civilian occupations because they require similar duties and training. "Civilian Counterparts" identifies these civilian occupations and the kinds of companies or organizations in which they are located. The *Dictionary of Occupational Titles* (DOT) Code Index beginning on page 352 provides a complete listing of counterpart civilian occupations for each military occupation.

Opportunities

"Opportunities" contains information on the total number of officers working in the occupation and the average annual need for new personnel. Military career advancement in the occupation is also summarized in this section.

General Information on Officer Occupations

General Information on Officer Occupations

Officers are the professional leaders of the military. Their role is like that of a corporate manager or executive. Officers develop plans, set objectives, and lead other officers and enlisted personnel to accomplish them. Officers are also responsible for the well-being of the personnel who serve in their units and for the care of service equipment and property under their control. In short, an officer's role involves many responsibilities beyond those associated with the officer's occupational field.

MILITARY OFFICER OCCUPATIONS

Military officers work in a variety of managerial, professional, and scientific occupations. For example, military doctors, dentists, nurses, and therapists provide health care to military personnel and their families. Military lawyers perform legal work for their services and service members. The military also has officers in various fields of science and engineering. All military airplane and helicopter pilots are officers. Of course, officers are the leaders in all of the combat specialty areas such as special operations, infantry, armor, missiles, artillery, and naval operations.

Together, the five services offer employment opportunities in over 1,500 officer job specialties. To help you explore military officer careers, these specialties are grouped into 71 occupations in this book. The 71 occupations are organized into nine broad groups:

- Executive, Administrative, and Managerial Occupations
- Human Services Occupations
- Media and Public Affairs Occupations
- Health Diagnosing and Treating Practitioner Occupations
- Health Care Occupations
- Engineering, Science, and Technical Occupations
- Service Occupations
- Transportation Occupations
- Combat Specialty Occupations

Figure 5 shows the distribution of officers across the nine occupational groups. Over two-thirds of all military officer occupations have counterparts in the civilian world of work. For example, there are personnel managers, optometrists, electronic engineers, lawyers, and public affairs officers in both the military and civilian work forces.

GENERAL QUALIFICATION REQUIREMENTS

Each year, approximately 25,000 men and women become commissioned officers in the military. The term "commissioned" refers to the certification that officers receive upon meeting all qualification requirements. The certification confers military rank, authority, and obligation. To join the military as a commissioned officer, applicants must have a four-year college degree. Certain scientific, technical, and professional fields require an advanced degree. In addition, mental aptitude, physical, and moral standards must be met. The general qualification requirements for military officers are presented in Table 5 on page 213. Specific requirements vary by service. For additional information on officer qualification requirements, see the "Service Information on Officer Occupations" section beginning on page 223. For detailed questions, it is necessary to contact a recruiter.

Figure 5
Distribution of Officers by Occupational Group

1. Executive, Administrative, and Managerial
2. Human Services
3. Media and Public Affairs
4. Health Diagnosing and Treating Practitioner
5. Health Care
6. Engineering, Science, and Technical
7. Service
8. Transportation
9. Combat Specialty

Pathways to Becoming an Officer

There are four main pathways to becoming a commissioned officer:

- Service Academies
- Officer Candidate School (OCS) and Officer Training School (OTS)
- Reserve Officers' Training Corps (ROTC)
- Direct Appointment

Figure 6 shows the percent of new officers who became officers through these pathways. A description of each pathway follows:

Service Academies

The four service academies are:

- United States Military Academy at West Point, New York (Army)
- United States Naval Academy at Annapolis, Maryland (Navy and Marine Corps)
- United States Air Force Academy at Colorado Springs, Colorado (Air Force)
- United States Coast Guard Academy at New London, Connecticut (Coast Guard)

The competition for entry into the academies is keen. Among candidates who meet all the eligibility requirements, the academies offer admission to only the most qualified. To be eligible for admission to any of the academies, a young person must be at least 17 years of age, a citizen of the United States, of good moral character, and academically and physically qualified. In addition, candidates for the Army, Navy, and Air Force

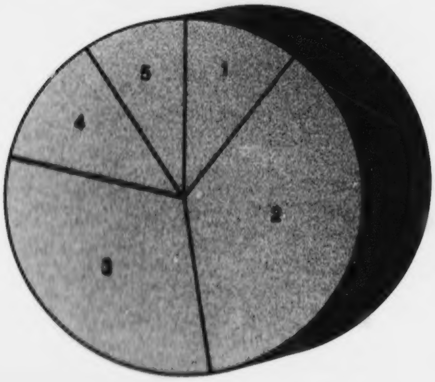

Figure 6
Pathways to Newly Commissioned Officers

1. Service Academies
2. Officer Candidate School (OCS) and Officer Training School (OTS)
3. Reserve Officers' Training Corps (ROTC)
4. Direct Appointment
5. Other

Academies must have a nomination to be considered for admission. Nominations are not necessary for admission to the Coast Guard Academy. Most candidates seek a nomination from their members of Congress. It is not necessary to know Senators or Representatives personally to receive a nomination. The recommended time to apply for nomination is the spring of the junior year in high school.

The academies all offer a four-year program of study leading to a bachelor of science degree in one of many disciplines. Students, called cadets or midshipmen, receive free tuition, room, board, medical and dental care, and a monthly allowance. Graduates receive a commission as a military officer and must serve on active duty for at least five years. Each year, about 11 percent of the military's new officers are graduates of these four academies. For more information about the service academies, see the "Service Information on Officer Occupations" section beginning on page 223 and your school counselor.

Officer Candidate/Training School

Each service offers a program for college graduates with no prior military training who wish to become military officers. These programs are called Officer Candidate School (OCS) or Officer Training School (OTS), depending on the service. Interested candidates should apply through a local recruiter in the fall of their senior year of college. After graduation, young men and women selected for OCS/OTS join the military as enlisted members for the duration of their OCS/OTS training. Depending on the service, OCS/OTS lasts up to 20 weeks. After successful completion, candidates are commissioned as military officers and have a service obligation of four years. Each year, about 30 percent of the military's new officers are commissioned through OCS/OTS. For more information, contact a recruiter.

Reserve Officers' Training Corps

Undergraduate students in public or private colleges or universities may receive training to become military officers under the Reserve Officers' Training Corps (ROTC). ROTC programs for the Army, Navy, Air Force, and Marine Corps are available in over 1,400 colleges and universities nationwide.

Depending on the service and ROTC option selected, students train for two, three, or four years. Often, they receive scholarships for tuition, books, fees, uniforms and a monthly allowance. In addition to their military and college course work, ROTC candidates perform drills for several hours each week and participate in military training exercises for several weeks each summer. Graduating ROTC candidates become commissioned as military officers and either go on active duty or become members of Reserve or National Guard units. Each year, about 37 percent of the military's new officers are gained through ROTC programs. For more information about service ROTC programs, see the "Service Information on Officer Occupations" section beginning on page 223. For information on the colleges and universities that offer ROTC programs for a particular service, contact a recruiter from that service.

Table 5 -- General Officer Qualifications*

Age	Must be between 19 and 29 years for OCS/OTS; 17 and 21 years for ROTC; 17 and 22 years for the service academies.
Citizenship Status	Must be U.S. citizen.
Physical Condition	Must meet minimum physical standards listed below. Some occupations have additional physical standards. Height -- For males: Maximum - 6'8" Minimum - 5'0" For females: Maximum - 6'8" Minimum - 4'10" Weight -- There are minimum and maximum weights, according to age and height, for males and females. Vision -- There are minimum vision standards. Overall Health -- Must be in good health and pass a medical exam. Certain diseases or conditions may exclude persons from enlistment, such as diabetes, severe allergies, epilepsy, alcoholism, and drug addiction.
Education	Must have a four-year college degree from an accredited institution. Some occupations require advanced degrees or four-year degrees in a particular field.
Aptitude	Must achieve the minimum entry score on an officer qualification test. Each service uses its own officer qualification test.
Moral Character	Must meet standards designed to screen out persons unlikely to become successful officers. Standards cover court convictions, juvenile delinquency, arrests, and drug use.
Marital Status and Dependents	May be either single or married for ROTC, OCS/OTS, and direct appointment pathways. Must be single to enter and graduate from service academies. Single persons with one or more minor dependents are not eligible for officer commissioning.
Waivers	On a case-by-case basis, exceptions (waivers) are granted by individual services for some of the above qualification requirements.

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*Each service sets its own qualification requirements for officers. For additional information on a particular service's requirements, refer to the "Service Information on Officer Occupations" section beginning on page 223, or contact a military recruiter.

Direct Appointments

Medical, legal, engineering, and religious professionals who are fully qualified in their field may apply to receive direct appointments as military officers. These individuals enter military service and begin practicing their profession with a minimum of military training. The service obligation for officers entering through direct appointment is two years. Some scholarship programs are available to assist students in these fields with their professional schooling in return for several years of service. Each year, direct appointments make up about 13 percent of the military's new officers. For information about opportunities for direct appointment in a particular service, contact a recruiter from that service.

Enlisted Commissioning Programs

In addition to the four main pathways described above, the services each have programs for qualified enlisted personnel to earn commissions as officers. These programs are exclusive, as they account for only 9 percent of newly commissioned officers each year.

OFFICER TRAINING AND EDUCATION

Training and education are ongoing throughout a military officer's career. Although each service has its own programs for officer professional development, all services view training and education, followed by practical experience, as the normal course of officer development. The military provides three kinds of training and educational opportunities to its officers:

- Basic officer training
- Job training
- Continuing education

Basic Officer Training

An important part of every pathway leading to officer commissioning is training on the basic knowledge required to become a military officer. The topics covered in this training include:

- The role and responsibilities of the officer
- Military laws and regulations
- Service traditions
- Military customs and courtesies
- Leadership
- Career development
- Military science
- Administrative procedures

In addition, most commissioning pathways involve physical conditioning consisting of calisthenics, running, and drills.

The duration and timing of officer training may vary with the commissioning pathway followed. For example, ROTC candidates receive basic officer training over the course of their two- to four-year ROTC programs. The same is true for cadets or midshipmen at the service academies. In contrast, OCS/OTS candidates receive their basic officer training in the 16- to 20-week OCS/OTS programs they attend after graduation from college.

Job Training

After earning their commissions, officers normally receive job training in preparation for their first duty assignment. Depending on the occupational field entered, initial job training may last from several weeks to two years. Officer job training, however, does not end after this.

Because officers are the professional leaders of the military, they must develop knowledge of the broad areas they might command. For example, supply officers must understand the entire supply system, from contracting, to warehouse management, to one-day command supply operations for an entire base. Therefore, supply officers are assigned to several different jobs during their career. Throughout a career, the services provide training to allow officers to maintain and increase their skills. In addition to technical training, the services provide training that focuses on military strategy and history as well as the leadership, writing, and management skills required for positions of greater responsibility.

For certain occupations, the military does not provide job training. Doctors, veterinarians, nurses, therapists, dietitians, lawyers, engineers, social workers, and other professionals may only enter the military after they have been fully trained and, in most cases, certified by a state board.

Continuing Education

Continuing education is an important part of an officer's professional development. It allows officers to broaden their knowledge and earn advanced degrees in military science, technical subjects related to their occupations, management techniques, and subjects they are interested in. Although having an advanced degree does not guarantee career advancement, it can be an important factor.

The services offer several programs for officer continuing education:

Service Colleges and Postgraduate Schools

Service-operated institutions, like the Naval Postgraduate School and the Air Force Institute of Technology, offer advanced degree programs in many fields. Both correspondence courses and in-residence programs are available. Competition is keen, and selections are based on service need as well as officer preference.

Tuition Assistance

Up to 75 percent of tuition costs at state and private institutions may be reimbursed for officers enrolled in night school or correspondence courses. To participate, officers must meet the entrance requirements of the institution and meet service guidelines. In some cases, the service will select officers to

attend a graduate degree program full-time and pay all costs plus their salary. Competition is very keen for these limited opportunities, and selections are based on service need.

DUTY ASSIGNMENT

After job training, officers are assigned to a military base or ship for duty in a specific job. Assignments normally last from two to four years. Initial assignments are based on the officer's field of training, performance in training, and job openings the service needs to fill. Later assignments depend on these factors plus performance on the job. In later assignments, the officer's preferences are also taken more into consideration, including the desire for certain jobs he or she is qualified for, or preference for a particular location. In general, however, duty assignments are made to meet the needs of the service.

All services require their officers to travel. The military has hundreds of bases located in nearly all states and in many countries around the world. Officers routinely transfer to a different base after each assignment. Regular transfers allow officers to gain experience in different settings and make duty assignments fair.

As officers progress in their careers, they assume positions of greater responsibility. To prepare for these responsibilities, officers may receive a variety of duty assignments, often outside their occupational specialty. For example, an infantry officer may be assigned to manage a personnel office or a recruiting station. A pilot could be assigned to a planning office in the Pentagon. These assignments broaden experience, leading to professional growth and greater understanding of the service's many parts.

RESERVE FORCES

Seven forces make up the Reserves:

- Army Reserve
- Navy Reserve
- Air Force Reserve
- Marine Corps Reserve
- Coast Guard Reserve
- Army National Guard
- Air National Guard

Reserve Forces Role

The Reserves have an important role in our national defense. Their primary mission is to stay prepared to respond to events that threaten our country's security. In a national emergency, the Reserves can be "called up" to serve temporarily on active duty to expand our regular armed forces.

In peacetime, the Reserves perform many duties to support the regular active duty forces, such as air patrols, search and rescue missions, air defense watch, installation and repair of communications equipment, transport of troops and supplies, and provision of medical services.

In addition to serving the national defense, National Guard units serve their states and local communities during natural disasters and civil emergencies. Guard members have been called to rescue flood and hurricane victims, fight forest fires, and assist local authorities during evacuations.

Becoming a Reserve Forces Officer

Currently, there are nearly 160,000 officers in the seven Reserve Forces. Each year, the Reserves need approximately 25,000 new officers. Although most Reserve Forces officers have prior experience as officers in the active duty forces, young men and women without prior military experience may join the Reserves if they qualify. The basic qualification requirements for Reserve Forces officers are the same as for active duty officers, shown in Table 5 on page 213.

There are several pathways for becoming a Reserve Forces officer, including ROTC and National Guard officer training. For more information, refer to the "Service Information on Officer Occupations" section beginning on page 223, or contact a military recruiter.

Service Obligation

To become a Reserve Forces officer, individuals without prior experience as active duty officers must commit themselves to an eight-year service obligation and undergo an initial training program at a military base. This training lasts between six and eighteen weeks, depending on the Reserve Force selected.

After initial training is successfully completed, Reserve Forces officers live and work as civilians in their own communities and train part-time with a nearby Reserve unit.

Reserve Unit Training

Reservists in organized units are required to attend training assemblies or drill regularly throughout the year. Reserve units are required to conduct a minimum of 48 training assemblies/drills a year. These assemblies are held in the evenings or on weekends or a combination of both. One weekend is the equivalent of four training drills.

Reservists must also spend from 12 to 17 days in full-time training each year. The annual training period is normally scheduled during the summer. Annual training may be conducted at a site away from the member's community, thus requiring reservists to be away for that period.

Reserve Pay

A Reservist's pay is based on the same pay grade and length of service as military personnel on active duty. Members receive one day's pay for each drill attended. In addition, they receive one day's pay for each day of annual training.

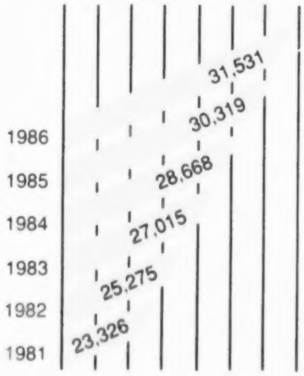


Figure 7
Women Officers
1981-1986

WOMEN OFFICERS

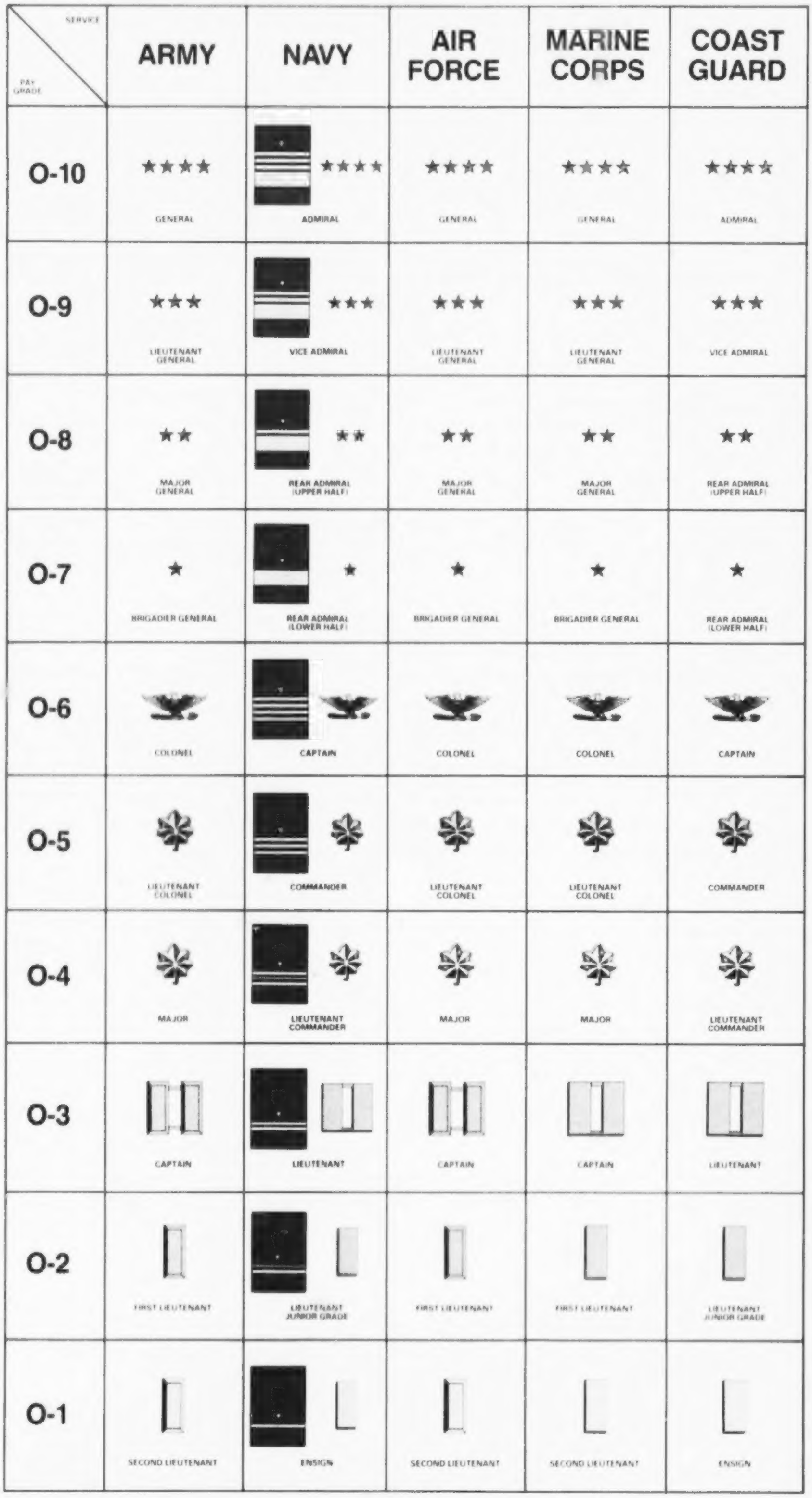
Military women are recognized today for the important contributions that they make to national defense. In the past 10 years, military women have increased in number from 2 percent to about 10 percent of active duty personnel. As shown in Figure 7, the total number of women in the officer ranks reached a new high of over 31,000 in 1986.

Not only has the percentage of women risen, but the scope of women's opportunities in the military has also expanded. Women are currently eligible to enter almost 90 percent of military job specialties. Examples of the many occupations in which women serve include airplane pilot, maintenance officer, and intelligence officer.

According to federal laws and policies, women may not be assigned to duty that involves a high probability of exposure to direct combat. Through studies, the services have determined which occupations have the highest probability of exposure to direct combat. Examples of these occupations include infantry officer, submarine officer, artillery officer, and fighter pilot.

Despite federal laws and policies that restrict women from entering direct combat-related occupations, there are many occupational specialties open to women, and more women are serving than ever before. In addition, the commitment to integrate women into the military has never been higher. The outlook for women officers in the military suggests the future will provide even greater opportunities.

Figure 8
Officer Insignia of the United States Armed Forces



SERVICE / PAY GRADE	ARMY	NAVY	AIR FORCE	MARINE CORPS	COAST GUARD
O-10	★★★★ GENERAL	★★★★ ADMIRAL	★★★★ GENERAL	★★★★ GENERAL	★★★★ ADMIRAL
O-9	★★★ LIEUTENANT GENERAL	★★★ VICE ADMIRAL	★★★ LIEUTENANT GENERAL	★★★ LIEUTENANT GENERAL	★★★ VICE ADMIRAL
O-8	★★ MAJOR GENERAL	★★ REAR ADMIRAL (UPPER HALF)	★★ MAJOR GENERAL	★★ MAJOR GENERAL	★★ REAR ADMIRAL (UPPER HALF)
O-7	★ BRIGADIER GENERAL	★ REAR ADMIRAL (LOWER HALF)	★ BRIGADIER GENERAL	★ BRIGADIER GENERAL	★ REAR ADMIRAL (LOWER HALF)
O-6	COLONEL	CAPTAIN	COLONEL	COLONEL	CAPTAIN
O-5	LIEUTENANT COLONEL	COMMANDER	LIEUTENANT COLONEL	LIEUTENANT COLONEL	COMMANDER
O-4	MAJOR	LIEUTENANT COMMANDER	MAJOR	MAJOR	LIEUTENANT COMMANDER
O-3	CAPTAIN	LIEUTENANT	CAPTAIN	CAPTAIN	LIEUTENANT
O-2	FIRST LIEUTENANT	LIEUTENANT JUNIOR GRADE	FIRST LIEUTENANT	FIRST LIEUTENANT	LIEUTENANT JUNIOR GRADE
O-1	SECOND LIEUTENANT	ENSIGN	SECOND LIEUTENANT	SECOND LIEUTENANT	ENSIGN

PAY AND BENEFITS

Military officers in all five services are paid according to the same pay scale and receive the same basic benefits. Military pay and benefits are set by Congress, which normally grants a cost-of-living pay increase once each year. In addition to pay, the military provides many of life's necessities, such as food, clothing, and housing, or pays monthly allowances for them. The following sections describe officer pay, allowances, and benefits in more detail.

Officer Pay Grades

Officers can progress through 10 officer pay grades during their careers. Pay grade and length of service determine an officer's pay. Figure 8 contains information on the relationship between pay grade and rank and also illustrates the insignia for the ranks in each service.

Most newly commissioned officers begin at pay grade O-1. Those who have certain professional qualifications and receive a direct appointment may enter at a higher pay grade. After two years, officers usually move up to O-2. After an additional two years, the military generally promotes officers to O-3 if job performance is satisfactory and other requirements are met. Promotions to O-4 and above are based on job per-

Table 6 – 1987 Basic Pay for Officers (Annual Figures)

Pay Grade	Years of Service Under 2 yrs	2	3	4	6	8	10	...	26
O-10	*	*	*	*	*	*	*	...	$70,801
O-9	*	*	*	*	*	*	*	...	70,801
O-8	*	*	*	*	*	*	*	...	70,801
O-7	*	*	*	*	*	*	*	...	62,734
O-6	*	*	*	*	*	*	$37,350	...	55,120
O-5	*	*	*	*	*	*	33,008	...	*
O-4	*	*	*	*	*	$29,714	31,741	...	*
O-3	*	*	$23,890	$26,435	$27,698	28,696	30,247	...	*
O-2	$17,431	$19,037	22,867	23,638	24,134	*	*	...	*
O-1	15,131	15,754	19,037	*	*	*	*	...	*

* Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

formance, leadership ability, years of service, and time in present pay grade. Since the number of officers at advanced pay grades is limited by Congress, the competition for promotion at these levels is intense.

Basic Pay

The major part of an officer's paycheck is basic pay. Pay grade and total years of service determine an officer's basic pay. Table 6 contains information on annual basic pay as of 1987. Cost-of-living increases generally occur once a year.

Incentives and Special Pay

The military offers incentive and special pay (in addition to basic pay) for certain types of duty. For example, incentives are paid for submarine and flight duty. Other types of hazardous duty with monthly incentives include parachute jumping, flight deck duty, and explosives demolition. In addition, the military gives special pay for sea duty, diving duty, duty in some foreign countries, and duty in areas subject to hostile fire. Special pay is also provided for officers in certain occupations, such as doctors, dentists, and veterinarians.

Allowances

Many officers and their families live free of charge in military housing on the base where they are assigned. Those living off base receive a quarters (housing) allowance in addition to their basic pay. In 1987, the monthly housing allowance ranged from $253 to $700, depending on pay grade and if the officer had dependents. Each officer also receives a subsistence (food) allowance of $112 per month. Because allowances are not taxed as income, they provide a significant tax savings in addition to their cash value.

When added together, housing and food allowances, along with their tax savings, are substantial additions to basic pay. Table 7 contains information on the total value of basic pay, allowances, and tax savings, called Regular Military Compensation. The table represents the amount of pay a civilian worker would have to earn to realize the same "take home" pay as a military officer. These figures provide a more realistic comparison between military and civilian salaries than the figures in Table 6.

Table 7 – 1987 Regular Military Compensation (Annual Figures)

Pay Grade	Years of Service								
	Under 2 yrs	2	3	4	6	8	10	...	26
O-10	*	*	*	*	*	*	*	...	$85,824
O-9	*	*	*	*	*	*	*	...	85,824
O-8	*	*	*	*	*	*	*	...	85,800
O-7	*	*	*	*	*	*	*	...	79,191
O-6	*	*	*	*	*	*	$52,894	...	71,224
O-5	*	*	*	*	*	*	46,067	...	*
O-4	*	*	*	*	*	$41,251	43,580	...	*
O-3	*	*	$33,363	$36,005	$37,345	38,437	40,160	...	*
O-2	$25,081	$26,829	30,856	31,646	32,164	*	*	...	*
O-1	21,451	22,122	25,801	*	*	*	*	...	*

Regular Military Compensation reflects basic pay, allowances, and the value of the tax advantage for allowances.

* Military personnel with this many years of service will probably not be in this pay grade. (Pay scale between 10 and 26 years not shown).

Employment Benefits

Military officers receive substantial benefits in addition to their pay and allowances. While they are in the service, officers' benefits include health care, vacation time, legal assistance, recreational programs, educational assistance, and commissary/exchange (military store) privileges. Families of officers also receive some of these benefits. Table 8 contains a summary of these employment benefits.

Retirement Benefits

The military offers one of the best retirement programs in the country. After 20 years of active duty, officers may retire and receive a monthly payment equal to 40 percent of their average basic pay for their last five years of active duty. Officers who retire with more than 20 years of active service receive higher pay. Other retirement benefits include medical care and commissary/exchange privileges.

Veterans' Benefits

Veterans of military service are entitled to certain veterans' benefits set by Congress and provided by the Veterans Administration. In most cases, these include guarantees for home loans, hospitalization, survivor benefits, educational benefits, disability benefits, and assistance in finding civilian employment.

Table 8 -- Summary of Employment Benefits for Officers

Vacation	Leave time of 30 days per year.
Medical, Dental, and Eye Care	Full medical, hospitalization, dental, and eye care services for officers and most health care costs for family members.
Continuing Education	Voluntary educational programs for undergraduate and graduate degrees or for single courses, including tuition assistance for programs at colleges and universities.
Recreational Programs	Programs include athletics, entertainment, and hobbies: Softball, basketball, football, swimming, tennis, golf, weight training, and other sports Parties, dances, and entertainment Club facilities, snack bars, game rooms, movie theaters, and lounges Active hobby and craft clubs, book and music libraries.
Exchange and Commissary Privileges	Food, goods, and services are available at military stores, generally at lower costs.
Legal Assistance	Many free legal services are available to assist with personal matters.

Service Information on Officer Occupations

Army

OVERVIEW

Today's Army is composed of a highly trained team. The individual soldier, the noncommissioned officer (NCO), and the officer make the Army's sophisticated technology work. They operate tanks, fly helicopters, and launch missiles. They build bridges, calibrate and operate computers, and apply state-of-the-art tools and methods to solve critical problems. Working together, these elements enable the army to accomplish its mission to deter war and be prepared to fight and win should deterrence fail.

The Army is made up of nearly 800,000 bright, well-trained men and women, including more than 92,000 officers and 15,000 warrant officers. These men and women compose the best-trained, best-disciplined, and most self-assured Army in recent history. The Army needs about 10,000 new officers each year.

BECOMING AN OFFICER

You may become an officer in the U.S. Army through one of four commissioning programs; The United States Military Academy, The Army Reserve Officers' Training Corps (ROTC), the Officer Candidate School (OCS), or direct appointment. All require, as a minimum, that the applicant be a high school graduate, pass a medical and physical exam, and be at least 17 years old.

U.S. Military Academy

The United States Military Academy, located at West Point, New York, offers bachelor of science degrees with majors in both engineering and liberal arts. Graduates earn a commission as a Second Lieutenant in the U.S. Army.

Admission to the academy is very competitive. Appointments are generally made through nominations from United States Senators and Representatives. Applicants should begin their quest for entry into the academy no later than the middle of their junior year in high school.

Army Reserve Officers' Training Corps (ROTC)

Army ROTC is the primary source for college-trained officers for the Army. The ROTC program is currently offered at over 300 host institutions and through agreements at more than 1,000 colleges and universities.

Army ROTC is divided into two parts -- the Basic Course and the Advanced Course. The Basic Course covers the freshman and sophomore years of college. Students may withdraw at any time, and no military obligation is incurred. Selected students may enroll in the Advanced Course during the final two years of college. Students in the Advanced Course receive uniforms, necessary military science textbooks, and a subsistence allowance of up to $1,000 each year. Cadets are scheduled for a six-week advanced camp during the summer between their junior and senior years of college.

Competitive scholarships are available for two, three, and four years. All ROTC scholarships pay for tuition, provide an allowance for textbooks, supplies and equipment, lab fees, and other education expenses, and provide a $1,000 subsistence allowance each year.

Officer Candidate School (OCS)

Officer Candidate School (OCS) is a 14-week course to train enlisted personnel, warrant officers, and civilians with a college degree to be Army officers. Enlisted soldiers and warrant officers must have 60 hours of college before applying for OCS. Civilian applicants must have a bachelor's degree.

Direct Appointment

The Army offers direct appointment opportunities for specialists from selected legal, medical, ministerial, and technical career fields. Professional experience can even earn a higher entry grade for qualified applicants.

Warrant Officers

Warrant officers are a unique category of Army officer. Warrant officers are appointed to meet Army requirements for officers possessing particular and specialized knowledge. These "technicians" work in over 70 specialized areas, from aviation to nuclear weapons. The largest group of warrant officers are aviators. The typical warrant officer aviator is a qualified helicopter pilot, although a small number may also qualify to fly airplanes. The only direct entry into the warrant officer field from civilian life is into the aviator program. Men and women desiring to become warrant officer aviators compete for a small number of vacancies each year. Each applicant must pass rigorous physical and mental standards in order to compete. Local Army recruiters can provide specific standards for application. Warrant officers, other than aviators, are appointed after several years experience as a soldier in the Army. Warrant officers are full-fledged members of the officer corps and provide specialized stability required in the high technology Army.

OFFICER TRAINING

Newly commissioned officers attend an Officer Basic Course (OBC), which prepares them for their first assignment. OBC contains a mix of classroom education and physical training. Much of the time is devoted to practicing leadership skills in a work-like environment. During OBC, which lasts about four months, lieutenants also participate in a vigorous physical fitness program. OBC instruction is provided by the branch of the Army that utilizes an officer's specialty. For example, newly commissioned infantry officers attend OBC at the U.S. Army Infantry School at Fort Benning, Georgia.

Special skills that may be needed by new officers are developed at a functional training course. Pilots complete their flight training after OBC. Army infantry Lieutenants may volunteer for Airborne (parachute) or Ranger training. Some infantry officers complete certification courses as Bradley fighting vehicle commanders if they are being assigned to units equipped with that vehicle.

Army officers are also provided advanced training and refresher instruction to meet the needs of the Army or their next assignment. These courses usually are not more than six months in length. For example, Army supply officers can take advanced courses in material management, air delivery of cargo, and food services management. Specialized courses are available in every career area.

At various points during a career as an Army officer, there are opportunities to participate in professional military education such as the Combined Arms Services Staff School or the Command and General Staff School. These programs prepare officers for the increasing responsibilities associated with career advancement to the more senior grades in the Army. They are primarily the study of how to be an officer and provide the command and staff knowledge required to be a professional officer.

ADVANCEMENT

Most new Army officers begin their careers as Second Lieutenants. A few officers receive a direct appointment to a higher grade. There are established points (time-in-service) at which time an officer is considered for promotion. Army officers are selected for advancement based on their being qualified to meet the requirements of the Army. The Army promotion process is designed to ensure advancement of the best officers, promote career development, and promote officers with the greatest demonstrated potential.

Promotion to the grade of First Lieutenant usually occurs at one and one-half years of service. After an additional two years of service, qualified officers are promoted to Captain. After being in the Army a total of nine to eleven years, an officer becomes eligible for promotion to Major. This and subsequent promotions are more competitive, with only the best qualified officers selected for promotion. While all officers compete with each other for promotion, the Army recognizes a need to retain the right number of officers with the skills to meet Army requirements. A selection board evaluates the potential of all eligible officers and recommends the best qualified in each career area for promotion. There are provisions for early promotions of outstanding performers (limited to less than 5 percent of promotions).

EDUCATION PROGRAMS

Advanced education is a goal for most Army officers. Some officers may be selected to pursue full-time studies toward a master's or doctorate degree through programs paid by the Army. Many officers pursue advanced education on their own time. Here are some of the programs offered by the Army for the advanced education of its officers:

Advanced Degree Program

The Army Education Requirements Board determines the Army's need for officers with advanced degrees. Selected officers are offered an opportunity to attend graduate school for up to three years in a discipline required by the Army. After completing their graduate studies, these officers are assigned to positions that utilize their education. These officers can also anticipate future assignments, that capitalize on their specialized knowledge. Officers are considered for this program after completing six to eight years of active duty.

"Top Five Percent"

This program is for selected USMA or ROTC cadets in the top 5 percent of their graduating class. As a result of their academic standing and cadet performance, selected cadets are invited to pursue a master's degree at a civilian school. The program offers up to 18 months of advanced civilian education. Graduate studies are approved only in disciplines for which the Army has an established requirement.

Technological Enrichment Program (TEP)

This program is a recent initiative designed to educate newly commissioned officers at the master's level. Approximately 30 lieutenants are selected from graduating ROTC programs. This program allows up to 18 months of advanced schooling in selected disciplines. Following schooling, TEP officers are awarded a functional area related to their schooling and are employed in this functional area for the remainder of their career.

Fully Funded Legal Education Program (FLEP)

The Judge Advocate General's Funded Legal Education Program allows up to 25 officers to be selected each year to attend a regular course of instruction leading to a Juris Doctor (J.D.) or Bachelor of Law (LL.B.) degree at an approved civilian law school. These programs are provided at government expense and usually last three academic years. Upon completion of schooling, the officer is required to accept an appointment in the Judge Advocate General Corps for the period of active duty obligation.

Training With Industry (TWI) Program

This program provides training in industrial procedures and practices not available through military or civilian schools. The TWI program provides officers with vital knowledge, experience and perspective in management and operational techniques. This experience is necessary to fill positions of significant responsibility in Army commands and activities that normally deal with civilian industry. Currently, these programs are concentrated in the area of transportation, procurement, logistics management, production engineering, research and development, public affairs and banking, communications-electronics, and advertising and marketing. These programs are normally four months long, with a predetermined follow-on assignment.

RESERVE OFFICERS

In thousands of cities and towns across America, men and women work full-time in their communities and serve their nation part-time in one of the Army's reserve components. There are more than 7,000 units of the Army Reserve and the Army National Guard. These units are trained and equipped to accomplish Army missions worldwide on very short notice. They are a vital part of the total Army team, often training alongside active duty Army personnel at home and overseas.

There are about 9,000 officers currently serving in Army National Guard and Army Reserve units. They serve in all career fields found in the active component of the Army. Often they serve in a career field that is the same as their civilian profession. Many serve in military units that offer them an exciting and demanding change from their full-time job. All of them will agree that the skills and qualities that are necessary for success in civilian life are enhanced by their military training and experience.

FOR FURTHER INFORMATION

Students who wish to learn more about specific military occupations are encouraged to use this guide to the fullest. In addition, many career information systems found in high schools and libraries have information about Army careers. The most up-to-date information about Army commissioning programs is available from an Army recruiter. Feel free to contact the one nearest you. There is no obligation.

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Navy

OVERVIEW

The Navy operates throughout the world to help preserve peace. Navy cruisers, destroyers, frigates, submarines, aircraft carriers, and support ships are ready to maintain the freedom of the seas. Navy sea and air power are available to assist in the defense of our allies or engage enemy forces in the event of war.

The United States Navy is a large and complex organization. It includes nearly 600 ships, 6,000 aircraft, and bases around the world. Nearly 1 million men and women work for the Navy, including 550,000 officers and enlisted people. Many of the nearly 70,000 officers serve as ship or submarine officers, pilots, flight officers, nuclear power instructors, and special warfare officers. Others perform specialized duties in intelligence, engineering, supply, law, medicine, and scientific careers. Between 6,000 and 7,000 men and women join the Navy as officers every year.

BECOMING AN OFFICER

A Navy officer must be a mature person capable of assuming a wide variety of duties at sea, in the air, and ashore. Applicants must be physically fit, at least 19 years old, and United States citizens. They must have at least a bachelor's degree. The major fields of study required vary depending on the officer specialty.

There are several ways to become a Navy officer. Commissioning programs are available for students still in college and for college graduates. Specialists in certain professional and scientific fields may qualify for a direct commission. Programs leading to a commission as a Navy officer include:

Reserve Officers Training Corps

The Naval Reserve Officers Training Corps (NROTC) program offers tuition and other financial benefits at more than 60 of the country's leading colleges and universities. Two-year and four-year subsidized scholarships are offered. Participants receive a monthly cash allowance.

Two-year and four-year nonsubsidized NROTC programs are also offered. These are referred to as college programs and provide for monthly cash allowances during the junior and senior years.

U.S. Naval Academy

The United States Naval Academy (USNA) provides a free four-year undergraduate education program. The USNA program leads to a bachelor's degree in a wide range of major subjects and a commission as a Navy or Marine Corps officer. Students are paid a monthly salary while attending the academy.

Students must be single with no children and must serve on active duty for at least five years after graduation, depending on follow-on training and designation. They must be nominated for the academy by an appropriate national official.

Nuclear Propulsion Officer Candidate Programs

The Nuclear Propulsion Officer Candidate (NUPOC) program is for college juniors and seniors pursuing a bachelor's degree in physics, chemistry, mathematics, or an engineering discipline. College graduates with a bachelor's or higher degree may also qualify for the NUPOC program. Cash bonuses are offered for joining and completing the Navy's NUPOC program.

The only Navy requirement is that the student maintain excellent grades in required subjects and earn a degree. While in the NUPOC program, the student can enjoy many of the same benefits received by regular Navy officers. Upon graduation from college, NUPOCs begin their naval officer training at Officer Candidate School in Newport, Rhode Island.

Aviation Officer/Naval Flight Officer Programs

Aviation Officer Candidate (AOC) and Naval Flight Officer Candidate (NFOC) programs are for college seniors and graduates interested in becoming Navy pilots or flight officers. If qualified and accepted, they attend the Aviation Officer Candidate School in Pensacola, Florida.

Warrant Officers

The Warrant Officer Program is open to all enlisted Navy people with the rank of Chief Petty Officer or above and have completed at least 12 years of naval service. Warrant officers are senior to all enlisted Chief Petty Officers and junior to all commissioned officers; they receive their authority from a warrant issued by the Secretary of the Navy.

Limited Duty Officers

The Limited Duty Officer Program is open to warrant officers with more than two years of service as warrants and to enlisted people who are petty officers with at least eight years of naval service. If qualified, they earn a Navy officer commission because of their high quality and experience in a specialty, but are limited to duties of that specialty.

Direct Commission

Direct commission (appointment) may be attained by a professional person who is already established in his or her specialty field but who is interested in the challenging and rewarding career and lifestyle of a Navy officer. The Navy has programs to help medical, dental, law, and theology students complete their professional training and earn commissions as Navy officers.

OFFICER TRAINING

Before receiving their first active duty assignment, all new Navy officers go through a period of initial training. This training is designed to acquaint individuals with the Navy way of life, its rules, regulations, and responsibilities. The training also covers naval operations, organization, and administrative procedures. NROTC candidates and Naval Academy midshipmen receive this training as part of their college program. Other prospective officers are required to go to one of three schools -- Officer Candidate School (OCS), Officer Indoctrination School (OIS), or Aviation Officer Candidate School (AOCS).

Each school consists of a full schedule of academic studies and rigorous physical training. OCS is a 16-week course for new surface warfare, nuclear submarine, engineering, intelligence, science, supply, and diving and salvage officers. OIS is a six-week course for officers who have received a direct commission in the field of medicine, law, or nuclear power. AOCS is the training ground for prospective Navy pilots, naval flight officers, air intelligence officers, and aviation maintenance duty officers.

Navy officers also go through specialized or technical training before their initial assignment. Initial advanced training after being commissioned an officer is usually at the Navy specialty school that pertains to the officer's major field of education or for which he or she qualified when entering the Navy. Here the new officers learn how to apply that specialty to naval operations.

For instance, cryptology officers go to the Naval Security Group orientation course; intelligence officers go to the Navy and Marine Corps Intelligence School; supply corps officers go to the Navy Supply School; civil engineer corps officers go to the Civil Engineer Corps School; and Navy chaplains go to the Chaplains' School. Pilots and naval flight officers receive their flight training and learn to operate the complex communications and weapons systems on Navy aircraft.

These schools may be several months to more than a year in length, depending on the complexity of the specialty and the advanced training needed. Other than the Navy aviation team, officers in the nuclear power program have the longest overall training period. After OCS, they go to Nuclear Power School in Orlando, Florida, for 24 weeks, then to a nuclear power training unit for 26 weeks, then to either the Submarine Officer Basic Course for 13 weeks or the Surface Warfare Officer School for 17 weeks before being assigned aboard a nuclear-powered vessel. The Navy's nuclear power training program is the broadest and most comprehensive anywhere.

Navy officers are also given short courses of special and refresher instruction to meet the needs of the service and their assignment. These courses usually are not more than six months in length. Specialized courses offered Navy officers are in communications, basic and advanced electronics, civil engineering, transportation management, naval justice, and petroleum products and supply.

Navy officers are also provided an opportunity to attend one of the service colleges. These are considered necessary for higher command leadership. A naval officer should possess a thorough knowledge of the principles and methods of naval strategy and tactics and of joint operations with other branches of the armed forces. To achieve these objectives, courses are given at the Armed Forces Staff College, the Inter-American Defense College, the National Defense University, the Naval War College, and Foreign Service Colleges.

ADVANCEMENT

Most college graduates begin their Navy officer career as an Ensign. After two years, they are eligible for promotion to Lieutenant Junior Grade. Another two-year period makes them eligible for promotion to Lieutenant. After being in the Navy a total of nine to eleven years, an officer becomes eligible for promotion to Lieutenant Commander. A Lieutenant Commander must have 15 to 17 years of service to be eligible to become a Commander. A Commander must have been in the Navy 21 to 23 years to be promoted to Captain.

Promotion to the ranks of Lieutenant Commander and above are very competitive, and only the best officers are selected for advancement. A selection board evaluates the past performance of each eligible officer and recommends the best qualified for promotions.

Each Navy officer is given a new assignment, or tour, as it is called, every few years. Every effort is made to match personal desires with the needs of the Navy. Assignments may be in the officer's chosen field or in a different field where there is a need.

EDUCATION PROGRAMS

Education and training are a continuous process throughout a Navy officer's career. As an officer's career develops, he or she may have the opportunity to take advantage of an advanced educational program. Here are some of the opportunities offered by the Navy in the professional development of its officers.

Postgraduate Education Program

The goal of the Navy's Postgraduate Education Program is to provide specialized education at the master's and doctorate level in technical and nontechnical fields of study. The program is conducted mainly at the Naval Postgraduate School in Monterey, California. It supplements its own program by using civilian universities for many courses. It also makes use of appropriate courses provided by other agencies of the Department of Defense.

Correspondence and Extension Courses

Correspondence and Extension courses are encouraged for all Navy officers. Most of the courses are provided by the Naval Correspondence Course Center. Others are offered by the Naval War College, the Industrial College of the Armed Forces, military medical and dental schools, the Defense Intelligence School, and the Naval Submarine School.

Officers may also enroll in courses given by other services and in graduate and undergraduate level education offered by colleges and universities.

THE NAVY RESERVE

Navy officers who leave active duty for civilian careers can retain many of the benefits of a Navy career by joining the Naval Reserve Force.

The Naval Reserve Force is a force of highly trained people available in a national emergency to meet the expanded needs of the regular Navy. Most reservists serve in a part-time status, consisting of one weekend a month and an annual two-week period of duty, called active duty for training. These training periods can be taken on an individual basis or with a reserve unit.

A Naval Reserve Force program called Officer Sea and Air Mariner (OSAM) allows an initial enlistment active duty period of only six weeks to two years, depending on the specialized field chosen, in which OSAMs are indoctrinated into the Naval Reserve Force and acquire specialized training. Following training, they return home to pursue civilian endeavors and fulfill the remainder of their Naval Reserve Force obligation with weekend drills and active duty training. The OSAM program is for people with no previous Navy experience but who want to serve their country while continuing in their civilian occupations.

A Naval Reserve Force medical program works the same way for medical specialists who wish to serve their country and at the same time continue their civilian medical practice.

The Naval Reserve Force is a fast-growing military organization. Its officer force numbered more than 24,000 members in mid-1986, but it is projected to rise to more than 30,000 by 1990.

FOR FURTHER INFORMATION

The occupational information in the *Military Career Guide* can be useful in exploring career opportunities in the Navy. Many career information systems found in high schools and libraries have similar information about military careers. However, to obtain detailed information about the latest commissioning programs, contact your local officer programs officer. There is no obligation.

Air Force

OVERVIEW

The United States Air Force is the primary aerospace arm of our nation's armed forces. The men and women of the Air Force fly, maintain, and support the world's most technically advanced aerospace forces, including long-range bombers, supersonic fighters, Airborne Warning and Control System (AWACS) aircraft, and many others. These forces are used whenever and wherever necessary to protect the interests of the United States and our allies. The Air Force is made up of over 600,000 men and women -- disciplined, dedicated, and professionally trained officers and airmen -- from all walks of life. The more than 100,000 officers pilot multi-million-dollar aircraft, launch satellites, gather sensitive intelligence data, manage maintenance and other logistical support, or do one of many tasks vital to the Air Force mission. The Air Force currently commissions about 8,500 men and women each year to fill openings in a wide variety of challenging careers.

BECOMING AN OFFICER

The Air Force commissions only United States citizens who possess a bachelor's degree from an accredited college. Depending on the career field an applicant selects, additional academic qualifications may be required (e.g. a graduate degree, specific courses). Applicants for a commission must also be physically fit and of high moral character. Typically, men and women may earn a commission through one of three precommissioning sources: The U.S. Air Force Academy, Air Force Reserve Officer Training Corps (AFROTC), or Officer Training School (OTS). Individuals in some professions may obtain a direct commission without attending one of the above commissioning programs.

U.S. Air Force Academy

Located at the foot of the Rocky Mountains near Colorado Springs, Colorado, the Air Force Academy annually accepts about 1,500 young men and women into its four-year program. Graduates earn a bachelor of science degree and an Air Force commission.

The program is intense, with a well-balanced curriculum that includes the physical and social sciences, humanities, and math. In addition, the academy provides cadets with a background in space operations through courses such as astrodynamics.

Admission to the Air Force Academy is generally made through nominations from United States Senators or Representatives, but other avenues to receive an admission appointment are available.

Air Force Reserve Officer Training Corps

This program gives college students a unique opportunity to earn a commission while they complete their degree requirements. AFROTC offers both a two- and four-year program at more than 600 colleges and universities across the nation. You apply for the four-year AFROTC program by simply enrolling in the aerospace studies course at the time you register for your other freshman courses. You may apply for the two-year AFROTC program if you have at least two years of undergraduate work remaining. Each cadet receives $100 a month during the final two academic years.

Scholarships are available for both programs on a competitive basis. Scholarships pay full tuition and laboratory and incidental fees, plus reimburse you for textbooks. Scholarship cadets also receive $100 tax free each month during the school year. High school students interested in the four-year scholarship should apply late in their junior year or early in their senior year of high school. College freshman and sophomores can apply by contacting the professor of aerospace studies at their college or university.

Officer Training School

Officer Training School (OTS) at Lackland Air Force Base near San Antonio, Texas, is a great opportunity for those who already have a bachelor's degree. Its rigorous 12-week program guides college graduates or degree airmen to commissions as Second Lieutenants. OTS cadets acquire the knowledge to perform as effective Air Force officers.

Direct Appointment

The Air Force commissions men and women in certain professions. Individuals are eligible for direct appointment if they are fully qualified in the medical, legal, or religious field. Individuals who believe they may be qualified for a direct commission should contact their nearest Air Force recruiter.

OFFICER TRAINING

Most new officers attend a technical training course immediately after coming on active duty. Technical training equips new officers with the specific skills required by their job specialty. Depending on the specialty, technical training lasts from a few weeks to over a year. (Some officers go directly to their first assignment without attending technical training.) Technical training centers are located at military installations throughout the United States. Upon completion of initial technical training, officers are assigned to an Air Force unit where they put their newly acquired skills to work.

At various points during a career as an Air Force officer, there is an opportunity to participate in professional military education -- such as Squadron Officers School, Air Command and Staff College, and the Air War College. These programs prepare officers for the increasing responsibilities associated with career progression to the more senior grades in the Air Force. They are primarily the study of how to be an officer and the command and staff knowledge required to be a professional officer. These are not the only educational opportunities available to Air Force officers.

ADVANCEMENT

Most newly commissioned officers enter the Air Force as Second Lieutenants. A few officers receive a direct appointment to a higher grade. There are established points when an officer is considered for promotion. Air Force promotions are based on the individual officer's performance. Promotion to the grade of First Lieutenant usually occurs after two years of service. After an additional two years of service, most officers are promoted to Captain.

Subsequent promotions are competitive, and only the best qualified officers are selected for promotion. All officers (except doctors, nurses, lawyers, and chaplains) compete with each other for promotion without regard to their specific career specialty. There are provisions for early promotion of outstanding performers.

Most young officers (Lieutenants) start out in small units. As they gain experience and progress in rank (Captain), they are assigned to larger units, overseeing the operation of several smaller units. More senior officers (Majors and Lieutenant Colonels) are usually assigned as commanders of squadrons and are responsible for accomplishing that squadron's mission, as well as for the welfare of the men and women under their command. Colonels are usually in command of very large units or Air Force installations. Generals are usually assigned to higher headquarters and oversee several installations consisting of thousands of personnel and hundreds of millions of dollars in airplanes, supplies, and equipment.

EDUCATION PROGRAMS

The Air Force will sponsor advanced education for qualified officers. Officers attending graduate school in their off-duty time can have the Air Force pay up to 75 percent of their tuition. The Air Force also sponsors officers' advanced education with the Air Force Institute of Technology (AFIT) or at one of the many civilian colleges throughout the country. The Air Force pays for all tuition, fees, books, and equipment and continues to provide full pay and benefits. AFIT conducts scientific, technological, and other specialized education to satisfy Air Force requirements. Air Force sponsored education leads to degrees in engineering, management, social sciences, and many other fields.

RESERVE FORCES

The reserve forces consist of two components, the Air National Guard and the Air Force Reserve. Their mission is to provide trained units and qualified personnel for active duty in the Air Force in time of war or national emergency and at such other times as the national security requires.

The reserve forces are highly trained and combat ready and are available for immediate call up to serve on active duty. They train (drill) regularly and provide a significant contribution to the daily operations of the Air Force as a by-product of their training. As you read this, there are Guard and Reserve KC-135 tanker crews on alert as part of the strategic offensive forces of the Strategic Air Command, helping to deter potential aggressors from a nuclear attack on the United States. Air National Guard air crews are on alert providing air defense for the United States. Guard and Reserve air crews are flying giant C-5A transports and C-141B transports throughout the world as part of the Military Airlift Command forces.

Air National Guard

The Air National Guard (ANG) provides 91 major flying units and several hundred mission support units, with at least one flying unit in every state. During peacetime, the Guard also has a state mission of disaster relief, maintaining peace and order and civilian defense. Guard units are under the control of the state governors through their Adjutants General. There are approximately 112,000 men and women in the ANG, with steady growth expected through the decade.

Criteria for appointment as an officer in the ANG are similar to those for active Air Force officers and are spelled out in Air Force regulations. However, selection and appointment to fill ANG unit vacancies are prerogatives of the states, with the Air Force granting federal recognition as reserve officers of the Air Force. Non-prior-service line officers selected for appointment in the ANG must attend six weeks of precommissioning training at the ANG Academy of Military Science, McGhee-Tyson AFB, Knoxville, Tennessee, where they are prepared for their initial commissioned service in the ANG. Upon commissioning, many new ANG officers are scheduled to attend further Air Force training in their specialty.

In 1986, there were approximately 14,000 ANG officers, of which nearly 4,000 were pilots. The number of ANG officers is projected to grow to more than 15,000 by 1990. In addition to growth, the ANG must replace losses due to retirement and various other reasons, which average around 1,000 per year.

Air Force Reserve

The Air Force Reserve is a totally federal force. It provides 57 flying units and approximately 485 mission support units. The Air Force Reserve has both "equipped" units with their own aircraft and "associate" units that fly and maintain active force aircraft and augment their active force counterparts during wartime or times of crisis to provide maximum utilization of the aircraft resources.

The Air Force Reserve consists of approximately 78,000 men and women who train regularly, either in the units or as Individual Mobilization Augmentees (IMAs). IMAs are individual reservists who train with active duty Air Force organizations and who will augment those organizations upon mobilization. There are approximately 12,000 IMAs.

Criteria for appointment as an officer in the Air Force Reserve are similar to those for active duty Air Force officers and are discussed elsewhere in this guide. Non-prior-service personnel selected to be candidates for pilot or navigator training or to become engineers are sent to Officers' Training School along with the active force line officer candidates. Medical officers attend an active force short course provided at Shepherd AFB, Texas. Each year, a small number of "deserving airmen" are selected to be commissioned from the enlisted ranks of the Air Force Reserves. They attend a two-week course at Maxwell AFB, Alabama, to learn officer skills.

The vast majority of the officer corps of the Air Force Reserve consists of prior-service officers who were commissioned through the Air Force Reserve Officer Training Corps, the Air Force Academy, or the Officer Training School and who served several years in the active Air Force before leaving extended active duty and joining the Air Force Reserve.

There are approximately 16,000 Air Force officers (including IMAs). Approximately 3,000 are pilots and 700 are navigators. Over 15 percent of Reserve officers are women. In order to achieve planned growth and to replace officer losses due to retirement and other reasons, the Air Force Reserve must recruit around 2,000 officers per year from all sources.

Headquarters, Air Reserve Personnel Center (ARPC) in Denver, Colorado provides assistance to officers seeking assignments as IMAs at any location. ARPC has a toll free number, which can be obtained from any Air Force Reserve unit re-cruiter. Unit recruiters can also assist in locating IMA vacancies.

The focal point for recruiting officers in the Air Force Reserve and Air National Guard is the unit, since officers are basically recruited from the local area surrounding each unit. The Consolidated Base Personnel Offices, located at each flying unit, are aware of all officer vacancies in both the flying units and the mission support units they service. Around the country, there are officer vacancies for pilots, navigators, civil engineers, doctors, and nurses.

FOR FURTHER INFORMATION

High school guidance counselors can give you advice and information on Air Force ROTC programs and the Air Force Academy. Local Air Force officer selection officers have the latest information on commissioning programs and career opportunities; contact them if you have any questions.

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Marine Corps

OVERVIEW

The United States Marine Corps was created on November 10, 1775, by a resolution of the Continental Congress. Since then, the Marine Corps has grown to be one of the most elite fighting forces in the world. The Marine Corps' mission is unique among the five services; Marines serve on U.S. Navy ships, protect naval bases, guard U.S. embassies abroad, and serve as an ever-ready strike force to quickly protect the interests of the U.S. and its allies anywhere in the world. To perform the many duties of the Marine Corps, approximately 200,000 officers and enlisted Marines in the Corps fly planes and helicopters; operate radar equipment, drive armored vehicles; gather intelligence; survey and map territory; maintain and repair computers, jeeps, radios, trucks, tanks, and aircraft; and perform hundreds of other challenging jobs. Each year, the Marine Corps accepts 1,800 new officers into its ranks to help maintain its 20,000-person officer corps.

BECOMING AN OFFICER

The Marine Corps recruits young men and women of high moral standards who have or will have a four-year college degree, are physically fit, and have demonstrated potential for leadership. Applicants must be American citizens or registered aliens, must pass the initial Marine Corps physical fitness test, and must qualify mentally on one of three tests: the SAT, ACT, or Armed Services Vocational Aptitude Battery (ASVAB). Minimum acceptable scores are: SAT - combined verbal and math scores of 1000; ACT - 45; and ASVAB - Electronics Repair composite - 120. The only age requirement is that a person must be at least 20 and no older than 28 at the time of commissioning. Applicants for law programs must score a minimum of 26 on a 50-point scale or 460 on a 600-point scale of the LSAT.

Marine Corps officers are selected from various sources, including the Naval Reserve Officer Training Corps (NROTC) Program, the United States Naval Academy, the Platoon Leaders Class (PLC) Program, the Officer Candidate Class (OCC) Program, and the Woman Officer Candidate (WOC) Program.

Naval Reserve Officer Training Corps

The NROTC Scholarship Program offers tuition and other financial benefits worth as much as $50,000 at one of more than 65 of the country's leading colleges and universities. Four-year NROTC scholarships are available to high school graduates on a competitive selection process in which consideration is given to such factors as high school record, college board scores, extra curricular activities, and leadership qualities.

Two- and three-year NROTC scholarships are available to college freshmen, sophomores, and juniors meeting basic requirements. Recipients are selected in a competitive process similar to that for the four-year scholarship.

U.S. Naval Academy

Beginning in 1883, Marine Corps officers were commissioned from the U.S. Naval Academy, where graduating midshipmen earn a bachelor of science degree either in one of seven different engineering programs or in one of eleven disciplines offered apart from engineering programs. Today, nearly 17 percent of each graduating class receives regular Marine Corps commissions.

Platoon Leaders Class

The Platoon Leaders Class (PLC) Program is for those college freshmen, sophomores, and juniors who have made the decision to pursue a Marine Corps officer commission. Application to this program may be made upon successful completion of the first semester or quarter of the freshman year. Applicants must be enrolled in a four-year accredited college and are eligible to receive $1,000 per month in financial assistance after successful completion of their first summer of training.

PLC officer candidates attend summer training sessions at the Marine Corps Officer Candidates School in Quantico, Virginia. Freshmen and sophomores participate in two six-week sessions and juniors participate in one 10-week session.

Aviation guarantees in the PLC-Aviation Program are available to those who qualify. In this program, individuals receive real flight experience and instruction to familiarize them with flying before military flight training begins.

PLC-Law is a post baccalaureate degree program for law school attendees. Active duty is postponed until a student obtains a law degree and passes the bar examination.

Officer Candidate Class

The Officer Candidate Class (OCC) Program is precommission training for college seniors and graduates who desire to be Marine Corps officers. Upon graduation from college, candidates attend one 10-week officer training course and receive a reserve commission upon successful completion of training.

Women Officer Candidate Program

The Women Officer Candidate (WOC) Program is open to women in their junior and senior years of college or who have graduated from a four-year accredited institution. Training consists of a 10-week summer course in consolidated officer candidate companies. Women candidates participate in much of the same rigorous screening programs as their male counterparts, and when they successfully complete training, they receive a reserve commission as well.

In addition to the programs described above, the Marine Corps has programs for qualified enlisted personnel to earn commissions as officers.

OFFICER TRAINING

The Marine Corps has developed career patterns to prepare its officers to assume progressively higher command and staff responsibilities. These career patterns are designed to provide individual training and education, followed by operational assignments. They allow officers to learn their professions and progress to sequentially more demanding assignments.

Officer training can generally be divided into three types. First, the Marine Corps maintains a system of professional military education that is progressive in nature. This education prepares offices for the increasing responsibilities associated with career progression to more senior grades in the Marine Corps. It is primarily the study of how to be an officer and the command and staff knowledge required of a professional. Examples of this type of training are the 23-week Basic Officers Course, which all newly commissioned officers attend, and the 43-week Command and Staff College for midgrade officers.

The second type of training encompasses the many specific skill-producing courses that are conducted to enable the officer to perform in a specialized area immediately upon assignment. Most Marine Corps officers attend one of these courses sponsored by the Corps, but they may also attend others conducted by the Navy or another service. An example of this type of initial training is pilot training conducted by the Air Force. An example of follow-on skill progression training is the Weapons and Tactics Instructor Course designed for highly qualified aviation and command and control officers.

The third type of training provided to selected officers is either in-house or civilian advanced academic education. This type of training is designed to meet the Marine Corps' need for officers trained in specific technical, scientific, engineering, or managerial fields. Examples of this type of training are the U.S. Naval Test Pilot School and the U.S. Army Management of Defense Acquisition Contracts Course.

Every Marine Corps officer's training begins with the physically and mentally demanding Basic Officers Course and progresses to individual training specifically designed for his or her military occupational specialty (MOS). This unique training of the Marine Corps air-ground team provides all Marine Corps officers with a common background that is independent of their MOS.

ADVANCEMENT

Marine Corps officers are selected for advancement based on their being best qualified to meet the needs of the Marine Corps. Each individual's qualifications and performance of duty must clearly demonstrate that he or she would be capable of performing the duties normally associated with the next higher permanent grade. Every aspect of an officer's performance is carefully evaluated during the selection process to ensure that those selected for promotion are truly the best qualified.

The Marine Corps has an established career counseling system to provide officers with proper career guidance and counsel. Broad guidelines help to channel all officers to a rewarding, successful career.

After initial qualification in an MOS, officers are offered continued professional education, various duty assignments, and further MOS training. Junior officers can expect to be challenged to perform not only as leaders, but as technicians and managers. Commonly, junior officers are put in charge of units consisting of anywhere from three or four to over 100 Marines.

As junior officers become more proficient in their fields, opportunities arise for more challenging assignments and increased responsibility. Performance in these challenging situations directly relates to the continuance of a Marine Corps career. Although promotion boards review many factors, performance is the key to advancement.

EDUCATION PROGRAMS

The Marine Corps offers career education at every level in the officer ranks. Not only is formal schooling provided to enhance the professional development of officers, but the Marine Corps has an extensive correspondence course program available to all officers.

Especially inviting are the various graduate education programs made available to qualified officers; the Special Education Program, the Advanced Degree Program, the Excess Leave Program-Law, and the Funded Law Education Program.

Special Education Program

The Special Education Program (SEP) is a fully funded program designed to build up the Marine Corps' pool of officers with specialties in both technical and nontechnical disciplines. Officers accepted into and completing the program earn master's degrees in designated disciplines by attending the Naval Postgraduate School, the Air Force Institute of Technology, or approved civilian schools.

Advanced Degree Program

Under the Advanced Degree Program (ADP), expenses for the cost of a master's degree are partially funded. Officers are selected to study in a particular technical or nontechnical discipline and may attend the accredited school of their choice. While in this and the SEP program, officers continue to receive all pay and allowances.

A sample of the types of disciplines officers may study while in either the ADP or the SEP includes space systems operations, defense systems analysis, management, public relations, computer science, electronic engineering, and telecommunications management.

Excess Leave Program-Law

The Excess Leave Program-Law (ELP-L) provides qualified Marine Corps officers the opportunity to take time off from active duty to attend an accredited law school at their own expense.

Funded Law Education Program

Under the Funded Law Education Program (FLEP), Marine Corps officers attend an accredited law school of their choice, with the Marine Corps paying their tuition and expenses. Full pay and allowances are provided to those officers in the FLEP.

RESERVE OFFICERS

The Marine Corps Reserve plays a vital role in the augmentation of the regular force. Hard work and dedication are keys to maintaining a combat-ready force capable of responding, at any time, to the call to active duty. Reserve officers have an especially challenging role in maintaining this ready force.

Currently, 7,300 reserve officers serve on active duty, and 7,500 reserve officers are assigned to Selected Marine Corps Reserve (SMCR) units or the Individual Ready Reserve (IRR).

Reserve officers serve in the same types of duties and job assignments as their regular counterparts. The main difference is that they serve part-time, one weekend each month and two weeks of continuous duty each year. Regular officers serve full-time, all year round.

FOR FURTHER INFORMATION

The above information is only a broad overview of the exciting challenges available to Marine Corps officers. Young men and women desiring more information about Marine Corps officer opportunities should talk to a local Marine Corps officer selection officer.

Coast Guard

OVERVIEW

The United States Coast Guard regularly performs many functions vital to maritime safety. The Coast Guard's most visible job is saving lives and property in and around American waters. The Coast Guard also enforces customs and fishing laws, protects marine wildlife, fights pollution on our lakes and along the coastline, and conducts the International Ice Patrol. The Coast Guard is also responsible for monitoring traffic in major harbors, keeping shipping lanes open on ice-bound lakes, and maintaining lighthouses and other navigation aides.

The Coast Guard is a part of the U.S. Department of Transportation. In time of war it may be placed under the command of the Navy Department. A vital part of the Armed Services, the Coast Guard has participated in every major American military campaign. The Coast Guard is the smallest of the armed services, with about 5,000 officers and 32,000 enlisted personnel on active duty. Coast Guard officers perform in many different occupations to support the mission of the Coast Guard. Each year, the Coast Guard has openings for about 400 new officers in a wide range of challenging careers.

BECOMING AN OFFICER

There are three programs leading to a commission as an officer in the U.S. Coast Guard. The Coast Guard Academy, Officer Candidate School, and direct commissioning. Applicants for all programs must be physically fit, United States citizens, and of high moral character.

The U.S. Coast Guard Academy

The U.S. Coast Guard Academy, located in New London, Connecticut, accepts about 270 young men and women into its program each year. The four-year academic program leads to a bachelor of science degree in a variety of majors. Approximately 75 percent of the academy graduates earn degrees in technical areas such as engineering, sciences, and mathematics.

Each major provides a sound undergraduate education in a field of interest to the Coast Guard and prepares the cadet to assume initial duty as a junior officer. Upon graduation, the cadet is commissioned as an ensign in the Coast Guard.

Appointment as a cadet is based solely on an annual nationwide competition. It is not necessary to obtain a nomination from a Senator or Representative. The competition includes either the College Board Scholastic Aptitude Test (SAT) or the American College Testing Assessment (ACT), your high school rank in class, and your leadership qualities. Interested students should apply during the fall of their senior year in high school.

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Officer Candidate School

The Officer Candidate School (OCS) is precommissioning training for college graduates who want to become Coast Guard officers. Upon graduation from college, candidates attend a 17-week officer training course at Yorktown, Virginia. The physical and academic curriculum is demanding. In addition to physical training, OCS candidates study navigation, ship's operations, seamanship, Coast Guard orientation, and leadership. After completing OCS, candidates are commissioned as Ensigns in the Coast Guard.

Direct Commissions

Graduates from a law school accredited by the American Bar Association are eligible to receive commissions as Lieutenants in the Coast Guard Reserve. The applicant must be admitted to the bar of a state or federal court within one year of receiving a commission. Qualified graduates of state and federal maritime academies may also be eligible for a commission as an Ensign or Lieutenant Junior Grade in the Coast Guard Reserve.

TRAINING

Newly commissioned officers are usually assigned to sea duty. This duty will be in one of the Coast Guard's primary missions, such as search and rescue, marine law enforcement, drug interdiction, or aids to navigation. After the initial assignment, an officer is encouraged to apply for postgraduate education or specialized training. The Coast Guard provides training in a range of career areas. Coast Guard pilot training is available to selected graduates of the Coast Guard Academy or Officer Candidate School. Pilot trainees attend 14 months of basic and advanced flight training at naval air stations in Pensacola, Florida, and Corpus Christi, Texas, or Mather AFB in Sacramento, California. Many other courses are provided to instruct officers in specific skills needed for a particular assignment. In addition, there is an opportunity to participate in professional military education such as the Armed Forces Staff College, the Industrial College of the Armed Forces, or one of the colleges run by another branch of the service.

ADVANCEMENT

Most Coast Guard officers begin their careers as Ensigns. After two years, they are eligible for promotion to Lieutenant Junior Grade. Another year makes them eligible for promotion to Lieutenant. After eight to nine years in the Coast Guard, an officer becomes eligible for promotion to Lieutenant Commander. A Lieutenant Commander must have 13 to 14 years of service to be eligible to become a Commander. A Commander must have 20 to 21 years of service to become a Captain.

Promotions to the rank of Lieutenant and above are very competitive, and only the best officers are selected for advancement. A selection board evaluates the past performance of each eligible officer and recommends the best qualified for advancement.

Each Coast Guard officer is given a new assignment, or tour, as it is called, every few years. Every effort is made to match personal desires with the needs of the Coast Guard. An assignment may be in an officer's chosen field, or it may be in a different field where there is a need.

EDUCATION PROGRAMS

The Coast Guard believes strongly in the continued education of its members. The Coast Guard offers several education assistance programs, including:

Tuition Assistance Program

The Coast Guard sponsors a tuition assistance program for off-duty education within the limits of available funds. This program allows Coast Guard officers to enroll in off-duty courses at accredited colleges and universities. The tuition is paid by the Coast Guard for all courses not in excess of six credits per semester (or quarter) or for any course not extending beyond one semester or a maximum of 17 weeks, whichever is longer.

Physician's Assistant Program

The Physician's Assistant Program is a two-year, full-time course of study at the Duke University Medical Center, Durham, North Carolina. The program includes nine months of elementary scientific principles, terminology, and basic medical science and 15 months of clinical training. Upon successful completion, Coast Guard graduates receive their certificates as physician's assistants and direct commissions as Chief Warrant Officer (PYA). In some cases when the student has had additional college courses, completion of the program may result in a bachelor's degree in Health Science.

Postgraduate Education Program

The Coast Guard offers qualified officers an opportunity to obtain advanced education on a full-time basis at Coast Guard expense. Each year, approximately 125 officers are selected for this program. They attend various colleges and universities in over 30 major curriculum areas. Entry into this program is competitive, and only the best qualified officers are selected.

FOR FURTHER INFORMATION

Although the preceding section gives a general overview of the Coast Guard and its programs, it by no means covers the wide range of opportunities available in the Coast Guard. Use the *Military Career Guide* to begin exploring career possibilities in the Coast Guard. Your local Coast Guard recruiter would be pleased to supply you with current, more detailed Coast Guard career information. There is no obligation.

COAST GUARD
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Officer Occupational Descriptions

Executive, Administrative, and Managerial Occupations

- Accountants and Auditors
- Attaches
- Communications Managers
- Data Processing Managers
- Education and Training Directors
- Emergency Management Officers
- Financial Managers
- Food Service Managers
- Health Services Administrators
- Management Analysts
- Personnel Managers
- Postal Directors
- Purchasing and Contracting Managers
- Recreation Directors
- Recruiting Managers
- Store Managers
- Supply and Warehousing Managers
- Teachers and Instructors
- Transportation Maintenance Managers
- Transportation Managers

ACCOUNTANTS AND AUDITORS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military spends billions of dollars each year on personnel, equipment, and supplies. Complete and accurate records of these expenditures are needed for planning and budgeting. Accountants and auditors prepare and examine financial records and reports. They also advise commanders on financial and accounting matters.

What They Do

Accountants and auditors in the military perform some or all of the following duties:

- Develop ways to track financial transactions
- Direct and help in the collection and analysis of financial data
- Examine records of financial transactions to make sure they are recorded correctly
- Review audit reports and expenditure records
- Recommend ways to improve accounting and auditing operations
- Develop accounting and auditing training programs
- Direct the activities of accounting and auditing staff

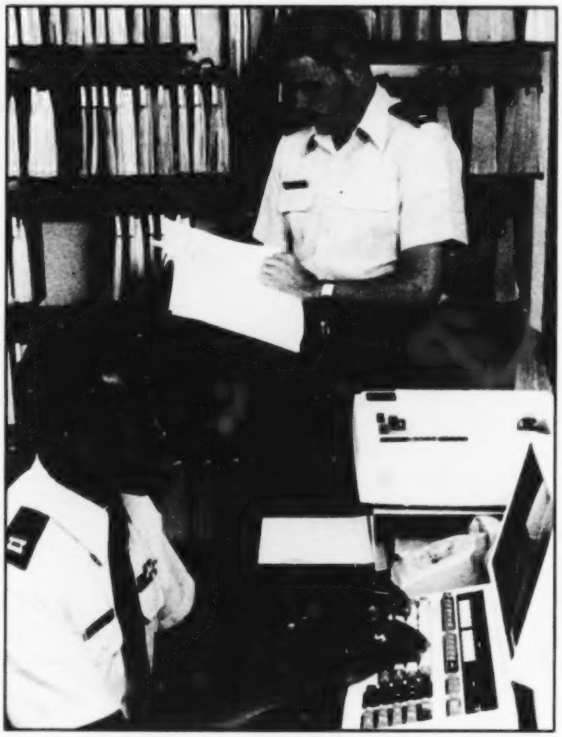
Special Qualifications

A 4-year college degree is normally required to enter this occupation. Recognition as a Certified Public Accountant (CPA) is desired.

Helpful Attributes

Helpful fields of study include accounting, finance and business, or public administration. Helpful attributes include:

- Preference for working with numbers and statistics
- Interest in work requiring accuracy and attention to detail



Work Environment

Accountants and auditors work in large accounting and finance offices.

Training Provided

Job training consists of between 12 and 16 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Military accounting
- Financial management
- Duties of accounting and finance officers
- Personnel management and payroll procedures

Civilian Counterparts

Civilian accountants and auditors work for accounting firms, government agencies, and all types of business organizations. They perform duties similar to those performed by military accountants and auditors. They usually specialize in certain areas of accounting, such as budgets, internal auditing, or cost accounting. Some civilian employers require that accountants hold a CPA.

Opportunities

The services have about 1,340 accountants and auditors. On average, they need 140 new accountants each year. After job training, accountants and auditors are assigned to accounting and finance offices. Initially, they perform work in accounting, auditing, or financial management operations. With experience, they advance to senior management or command positions.

ATTACHES

Army
Navy
Air Force
Marine Corps

Information about the military capabilities of foreign countries is vital to our national defense. Our leaders need to know the strengths and weaknesses of both friendly and unfriendly countries. Attaches collect, analyze, and report information about foreign countries to be used for military planning.

What They Do

Attaches in the military perform some or all of the following duties:

- Collect and report information about the military forces of foreign countries
- Hold meetings with foreign military and government officials
- Analyze political, social, and economic matters in foreign countries
- Project foreign political trends
- Advise commanders about situations in foreign countries

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties require an advanced degree. Knowledge of the people and language of one or more foreign countries may be required.

Helpful Attributes

Helpful fields of study include political science, history, and international affairs. Helpful attributes include:

- Ability to express ideas clearly and concisely
- Interest in collecting and analyzing data
- Interest in living and working in a foreign country
- Interest in working closely with people

Work Environment

Attaches work mainly in offices of U.S. embassies and missions located overseas.

Training Provided

Job training is provided in some specialties. Training length varies by entry requirements and specialty area. Course content typically includes:

- Political and cultural awareness
- Development of foreign area expertise
- Organization and functions of diplomatic missions

Further training occurs on the job.

Civilian Counterparts

Civilians who perform work similar to the work of attaches are employed mainly by government agencies, such as the Department of State. Called foreign service officers, they work in U.S. embassies and missions overseas. Other civilian counterparts include political scientists, university instructors, and advisors to corporations doing business overseas.

Opportunities

The services have about 460 attaches. On average, they need 25 new attaches each year. Normally, attaches are selected from among officers who have several years of military experience. They are selected from a variety of military career fields. Officers selected to be attaches usually return to their main career field after several years of duty as an attache.

COMMUNICATIONS MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Instant worldwide communication among air, sea, and land forces is vital to military operations. The services operate some of the largest and most complex communication networks in the world. Communications managers plan and direct the operation of military communication systems. They also manage personnel in communications centers and relay stations.

What They Do

Communications managers in the military perform some or all of the following duties:

- Develop rules or procedures for sending and receiving communications
- Direct personnel who operate computer systems and electronic telecommunications and satellite communications equipment
- Develop ways to track and ensure security of communications
- Direct personnel who maintain and repair communications equipment
- Develop budgets for communication centers

Special Qualifications

A 4-year college degree, preferably in engineering, mathematics, computer science, or related fields, is required to enter this occupation.

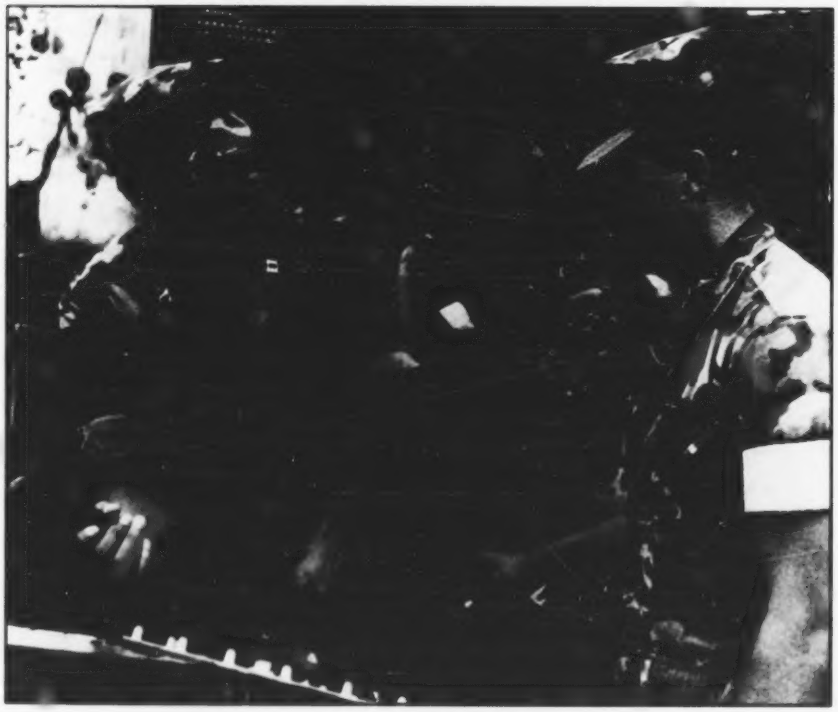
Helpful Attributes

Helpful attributes include:

- Interest in working with computers, radios, and electronic equipment
- Interest in technical work

Work Environment

Communications managers usually work in communications centers on land or aboard ship.



Training Provided

Job training consists of between 12 and 32 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Communication theory and security
- Communications-electronics management
- Satellite communications, including tactical ground terminals
- Electronic principles, technologies, and systems
- Tactical combat communications systems

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian communications managers work for private firms involved with telephone and telegraph communications, radio and TV broadcasting, and satellite communications. They perform duties similar to those performed by military communications managers. Depending on their specialty, they may also be called station managers, operations managers, and communications superintendents.

Opportunities

The services have about 5,340 communications managers. On average, they need 290 new communications managers each year. After job training, communications managers are assigned to manage or assist in managing a communication center. With experience, they may advance to senior management or command positions.

DATA PROCESSING MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military uses computers in almost every aspect of its operations. Military computers are used to process payroll and personnel information, control the targeting and firing of weapons systems, account for money, and make it easier to communicate around the world. Data processing managers direct the operations of computer centers.

What They Do

Data processing managers in the military perform some or all of the following duties:

- Prepare data processing plans and budgets
- Develop policies and procedures for computer facility operations
- Develop and monitor contracts for data processing equipment and services
- Direct teams of programmers, systems analysts, systems engineers, and computer operators
- Plan and direct training for computer facility personnel

Special Qualifications

A 4-year college degree in computer science, mathematics, business administration, industrial management, or engineering management is required to enter this occupation. Some specialties require a master's degree.

Helpful Attributes

Helpful attributes include:

- Interest in working with computers
- Interest in planning and directing the work of others

Work Environment

Data processing managers in the military work in offices or computer centers.

Training Provided

Job training consists of between 10 and 13 weeks of classroom instruction, including management exercises. Training length varies depending on specialty. Course content typically includes:

- Administration and management of data processing centers
- Fiscal and contract management
- Data processing project management
- Data processing personnel training and development
- Assessment of computer equipment needs

Civilian Counterparts

Civilian data processing managers work for a wide variety of employers, such as banks, hospitals, manufacturers, financial firms, insurance companies, and government agencies. They perform duties similar to those performed by military data processing managers. They may also be called computer systems managers, ADP managers, EDP managers, information systems directors, and management information systems directors.

Opportunities

The services have about 1,200 data processing managers. On average, they need 120 new data processing managers each year. After job training, data processing managers are assigned to manage small computer installations or small units in large installations. With experience, they may become managers of large installations or advance to senior management and command positions in the data processing field.

EDUCATION AND TRAINING DIRECTORS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military places great importance on training to prepare service men and women for their military careers. Programs include training in technical skills, physical fitness, and leadership development. Education and training directors plan, develop, and manage education and training programs for military personnel.

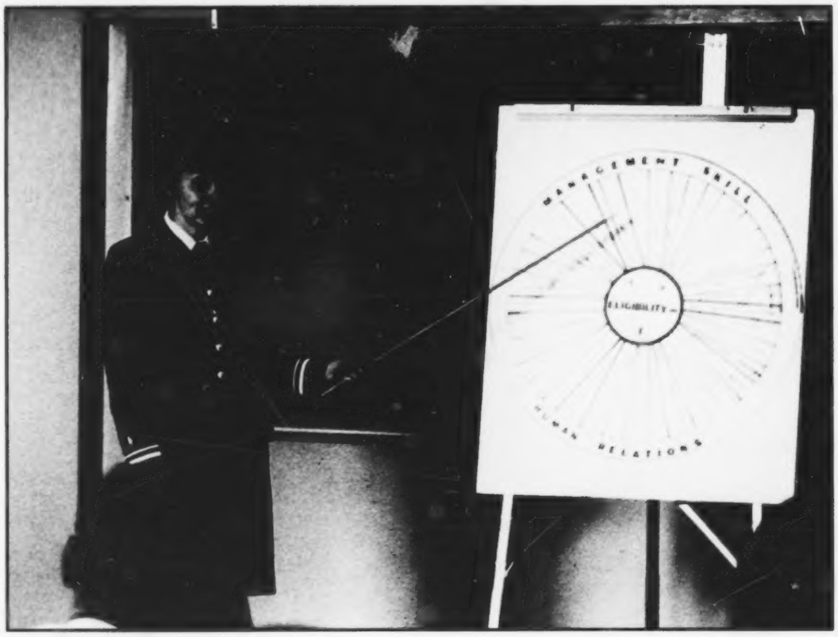
What They Do

Education and training directors in the military perform some or all of the following duties:

- Develop new training courses
- Review and approve course material and training outlines prepared by instructors
- Plan and evaluate new teaching methods
- Assign duties to instructors, curriculum planners, and training aids specialists
- Evaluate the progress of students and instructors
- Train instructors in course subject matter
- Develop training and educational policies and objectives
- Coordinate training for military personnel at civilian schools or through correspondence courses

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties require a master's degree.



Helpful Attributes

Helpful fields of study include education, physical education, organizational development, personnel management, and industrial psychology. Helpful attributes include:

- Interest in developing educational programs
- Preference for working with people
- Interest in work involving many subject areas

Work Environment

Education and training directors work in offices and classroom training facilities. Those directing physical training work in gyms or outdoor settings.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian education and training directors work in schools, colleges, universities, vocational and technical schools, and training departments in business and industry. They perform duties similar to those performed by military education and training directors. They may also be called educational program directors, vocational training directors, and education supervisors.

Opportunities

The services have about 2,190 officers working as education and training directors. On average, they need 150 officers to become training directors each year. Education and training directors are usually selected from officers in many different occupational fields. They may direct training in their own or another occupational field. This occupation is normally available to officers who have had experience in an occupation besides education.

EMERGENCY MANAGEMENT OFFICERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military must be prepared for all types of emergencies, from natural disasters, such as floods, earthquakes and hurricanes, to enemy attacks. Emergency management officers prepare warning, control, and evacuation plans. They also coordinate emergency response teams during natural disasters.

What They Do

Emergency management officers in the military perform some or all of the following duties:

- Organize emergency teams for quick responses to disaster situations
- Research ways to respond to possible disaster situations
- Conduct training programs for specialized disaster response teams
- Develop joint disaster response plans with local, state, and federal agencies
- Obtain supplies, equipment, and protection equipment
- Develop warning systems and safe shelters
- Direct disaster control centers

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include physical and environmental sciences, engineering, law enforcement, and business or public administration. Helpful attributes include:

- Interest in developing detailed plans
- Ability to remain calm in stressful situations
- Ability to express ideas clearly and concisely

Work Environment

Emergency management officers usually work in offices while developing disaster response plans. They work outdoors while inspecting shelters or directing emergency response teams.

Training Provided

Job training consists of between 2 and 9 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Disaster planning
- Procedures for nuclear, biological, and chemical decontamination
- Effects of radiation
- Procedures for nuclear accident teams

Civilian Counterparts

Civilian emergency management officers work for federal, state, and local governments, including law enforcement and civil defense agencies. They perform duties similar to those performed by military emergency management officers.

Opportunities

The services have about 220 emergency management officers. On average, they need 15 new emergency management officers each year. After job training, emergency management officers are assigned to command centers or planning sections, where they develop emergency plans and training programs. In time, they may advance to senior management positions.

FINANCIAL MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each year the services issue millions of paychecks and buy great quantities of equipment and supplies. Only through careful management can military funds be put to their best use. Financial managers direct the financial affairs of the military. They study current spending trends and set major economic objectives.

What They Do

Financial managers in the military perform some or all of the following duties:

- Set policies for the use of military funds
- Direct the preparation of budgets and financial forecasts
- Compare actual spending to what was planned
- Study ways to improve the use of personnel, materials, and funds
- Revise budgets to reflect unexpected changes in spending needed for salaries and equipment
- Advise management personnel on accounting, budgeting, and fiscal matters
- Direct budget and accounting staff

Special Qualifications

A 4-year college degree in accounting, finance, or a related field is required to enter this occupation. Some specialties require a master's degree in business administration or recognition as a Certified Public Accountant (CPA).

Helpful Attributes

Helpful attributes include:

- Preference for working with numbers and statistics
- Interest in work requiring accuracy and attention to detail
- Interest in planning and directing the work of others

Work Environment

Financial managers work in offices.

Training Provided

Job training consists of between 2 and 12 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Budgetary review and analysis
- Financial management techniques
- Budget preparation and accounting operations
- Statistical analysis and fiscal planning

Civilian Counterparts

Civilian financial managers work for businesses, universities, hospitals, or government agencies. They perform duties similar to those performed by military financial managers. In large business firms they may be called executive controllers or company treasurers.

Opportunities

The services have about 2,820 financial managers. On average, they need 260 new financial managers each year. After job training, financial managers are normally assigned to fiscal or budget management positions. They may also be assigned as financial advisors to base or unit commanders. After demonstrating leadership abilities, they may advance to senior management and command positions.

FOOD SERVICE MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military serves food to hundreds of thousands of service members each day. Meals must be carefully planned and prepared to ensure good nutrition and variety. Food service managers direct the facilities that prepare and serve food.

What They Do

Food service managers in the military perform some or all of the following duties:

- Manage the cooking and serving of food at mess halls
- Direct the operation of officers' dining halls
- Determine staff and equipment needed for dining halls, kitchens, and meat-cutting plants
- Set standards for food storage and preparation
- Estimate food budgets
- Maintain nutritional and sanitary standards at food service facilities

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include food service management, nutrition, and business administration. Helpful attributes include:

- Interest in nutrition and food preparation
- Interest in planning and directing the work of others

Work Environment

Food service managers usually work in food service facilities. They may manage facilities in field camps or aboard ships.

Training Provided

Job training consists of between 12 and 16 weeks of classroom instruction. Course content typically includes:

- Food service operations and management
- Resource management
- Nutritional meal planning
- Hotel management

Civilian Counterparts

Civilian food service managers work for hotels, restaurants, and cafeterias. They perform duties similar to those performed by military food service managers.

Opportunities

The services have about 1,080 food service managers. On average, they need 70 new food service managers each year. After job training, food service managers may work independently or under the supervision of other officers. With experience, they may manage one or more large facilities. In time, they may advance to senior management positions.

HEALTH SERVICES ADMINISTRATORS

Army
Navy
Air Force
Coast Guard

In hospitals and clinics, all of the departments--emergency, X-ray, nursing, maintenance, administration, and food service--must work together to provide quality health care. Health services administrators manage hospitals, clinics, and other health care facilities. They also manage individual departments or specific health care programs within a hospital.

What They Do

Health services administrators in the military perform some or all of the following duties:

- Develop and manage budgets for health care facilities or programs
- Meet with hospital department heads to plan services and keep the health care facility running smoothly
- Direct personnel activities, such as hiring, employee evaluation, staff development, and recordkeeping
- Plan for delivering health services during emergencies and test these plans during exercises
- Direct the day-to-day operations of the nursing department
- Direct the operations of support departments, such as maintenance, food services, or administration

Special Qualifications

A 4-year college degree in health care, public health, business, nursing administration, or a related field, is required to enter most of the specialties in this occupation. Some specialties require further education or prior experience in the health services field.

Work Environment

Health services administrators work in hospitals, clinics, and other health care facilities. Most work at facilities on land, but some work aboard hospital ships and ships with large sick bays.

Helpful Attributes

Helpful attributes include:

- Interest in planning and directing the work of others
- Interest in working closely with people
- Ability to express ideas clearly and concisely
- Interest in health care

Civilian Counterparts

Civilian health services administrators usually work for hospitals, clinics, nursing homes, health maintenance organizations (HMOs), or other health care facilities. They may also work for colleges and universities, public health agencies, insurance companies, or health management firms. Civilian health services administrators perform duties similar to those performed in the military. Depending on the programs or facilities they manage, civilian health services administrators may also be called hospital administrators, nursing services directors, emergency medical services coordinators, and outpatient services directors.

Training Provided

Job training is provided for some specialties in this occupation. This training consists of between 10 and 12 weeks of classroom instruction and practical exercises. Course content typically includes:

- Planning and directing health services
- Patient unit management
- Nursing service administration

Opportunities

The services have about 3,580 health services administrators. On average, they need 280 new health services administrators each year. After job training, health services administrators may be assigned to a variety of positions depending on their specialty. Usually, they work under the direction of experienced officers. With experience, they may manage one or more departments in a facility. In time, they may direct a health services facility. Eventually, they may advance to senior management positions responsible for planning health services at many facilities.

MANAGEMENT ANALYSTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Good management minimizes waste and inefficiency. By improving its management techniques, the military makes the best use of its human and material resources. Management analysts study and suggest better ways to organize, staff, and manage military activities.

What They Do

Management analysts in the military perform some or all of the following duties:

- Measure work load and calculate how many persons are needed to perform the work
- Study the information needs of managers and design manual or computerized systems to satisfy them
- Design organizations for new or existing offices
- Analyze work to be performed and develop an efficient implementation plan
- Design rules or procedures for work activities or information flow
- Gather data for studies by conducting interviews and reviewing records
- Write reports and give briefings on findings

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include management, operations research, and business or public administration. Helpful attributes include:

- Interest in solving problems
- Interest in collecting and analyzing data
- Ability to express ideas clearly and concisely

Work Environment

Management analysts normally work in offices, although they sometimes study work that occurs outdoors.

Training Provided

Job training consists of between 6 and 10 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Management engineering techniques
- Methods of statistical analysis
- Internal review and analysis techniques
- Systems analysis procedures

Civilian Counterparts

Civilian management analysts often work in private management consulting firms. Many others work in hospitals, universities, government agencies, or manufacturing firms. Civilian management analysts perform duties similar to those performed in the military. They may specialize in areas such as records management analysis or systems management analysis.

Opportunities

The services have about 770 management analysts. On average, they need 50 new management analysts each year. After job training, management analysts are assigned to analysis teams. With experience, they may advance to senior management or command positions.

PERSONNEL MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

As with civilian employers, the military tries to find the best person for each job and encourages each individual to realize his or her full potential. Personnel managers direct programs to attract and select new personnel for the services, assign them to jobs, provide career counseling, and maintain personnel records.

What They Do

Personnel managers in the military perform some or all of the following duties:

- Plan recruiting activities to interest qualified young people in the military
- Direct testing and career counseling for military personnel
- Classify personnel according to job aptitude and interest and service need
- Direct the assignment of personnel to jobs and training
- Direct personnel recordkeeping operations
- Establish standards to determine the number of people to assign to activities
- Study military jobs to see how they can be improved and kept up-to-date with technology
- Plan for hiring, training, and assigning personnel for the future
- Develop programs to prevent and resolve equal opportunity problems

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Work Environment

Personnel managers work in offices.

Helpful Attributes

Helpful fields of study include personnel management, organizational development, industrial psychology, and labor relations. Helpful attributes include:

- Interest in working closely with people
- Interest in planning and directing the work of others
- Interest in working with computers

Training Provided

Job training consists of between 5 and 16 weeks of classroom instruction. Course content typically includes:

- Military personnel policies and objectives
- Automated personnel systems
- Career development programs
- Equal opportunity problems
- Management and organizational concepts

Further training occurs in advanced courses.

Civilian Counterparts

Civilian personnel managers work for all types of businesses and industries, as well as for government agencies. They perform duties similar to those performed by military personnel managers. Depending on their specialty, they may also be called employment relations directors, employment managers, occupational analysts, industrial relations directors, equal employment opportunity representatives, or affirmative action coordinators.

Opportunities

The services have about 9,160 personnel managers. On average, they need 470 new personnel managers each year. After job training, personnel managers may be assigned to many different types of work, depending on their specialties. Usually, they begin by working under experienced personnel managers. In time, they may advance to senior management and command positions.

POSTAL DIRECTORS

Army
Navy
Air Force
Marine Corps

The military operates its own postal system, which is an extension of the U.S. Postal Service. This system handles mail sent between the services and civilians. Postal directors manage the postal operations for military bases and naval fleets.

What They Do

Postal directors in the military perform some or all of the following duties:

- Direct the operation of post offices and mail rooms on military bases and ships
- Work with the U.S. Postal Service to forward service mail
- Keep information on the location and mailing addresses of military personnel
- Prepare reports on postal operations
- Inspect post office activities and records
- Investigate postal irregularities

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include business or public administration and transportation management. Helpful attributes include:

- Ability to plan and organize
- Interest in administrative work
- Ability to express ideas clearly and concisely
- Interest in working closely with others

Work Environment

Postal directors usually work in offices and postal facilities.

Training Provided

Job training consists of 4 weeks of classroom instruction. Course content typically includes:

- Organization of postal operations
- Post office services, such as money orders and certified mail
- Procedures for handling international mail

Civilian Counterparts

Civilian postal directors work for the U.S. Postal Service. Also called postmasters, they perform duties similar to those performed by military postal directors.

Opportunities

The services have about 190 officers working as postal directors. On average, they need 10 new postal directors each year. Postal directors are usually selected from among officers who make their career in the various administration or management fields. Postal operations is only one of many administrative specialties they may work in at some time during their military career. Officers normally do not have a career exclusively in postal operations.

PURCHASING AND CONTRACTING MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military buys billions of dollars' worth of equipment, supplies, and services from private industry each year. The services must make sure their purchases meet military specifications and are made at a fair price. Purchasing and contracting managers negotiate, write, and monitor contracts for purchasing equipment, materials, and services.

What They Do

Purchasing and contracting managers in the military perform some or all of the following duties:

- Review requests for supplies and services to make sure they are complete and accurate
- Prepare bid invitations or requests for proposals for contracts with civilian firms, which specify the type, amount, price, and delivery date for supplies or services
- Review bids or proposals and award jobs
- Prepare formal contracts, specifying all terms and conditions
- Review work to make sure that it meets the requirements of contracts

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Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include management and business or public administration. Helpful attributes include:

- Ability to develop detailed plans
- Interest in work requiring accuracy and attention to detail
- Interest in negotiating

Work Environment

Purchasing and contracting managers work in offices.

Training Provided

Job training consists of between 3 and 10 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Purchasing and accounting procedures
- Use of computers in contract administration
- Supply and financial management

Further training occurs through advanced courses.

Civilian Counterparts

Civilian purchasing and contracting managers work for a wide variety of employers, including engineering, manufacturing, and construction firms. They perform duties similar to those performed by military purchasing and contract managers. They may also be called procurement services managers, purchasing directors, supply managers, or material control managers.

Opportunities

The services have about 5,420 purchasing and contracting managers. On average, they need 310 new purchasing and contracting managers each year. After training, purchasing and contracting managers work with and advise commanders on contract proposals. With experience, they may advance to senior management and command positions.

RECREATION DIRECTORS

Army
Navy
Air Force
Marine Corps

Military recreation and sports programs are important for both morale and physical fitness. Many different sports and other activities are available. Recreation directors plan and manage sports and recreational activities for military personnel.

What They Do

Recreation directors in the military perform some or all of the following duties:

- Plan and organize entertainment and social activities such as plays, dances, and concerts
- Select entertainers and negotiate contracts
- Set up individual and team sports leagues and competitions
- Direct the storage and use of recreational equipment
- Plan and direct the operation and management of service clubs
- Oversee the management of military libraries
- Prepare recreational program budget requests

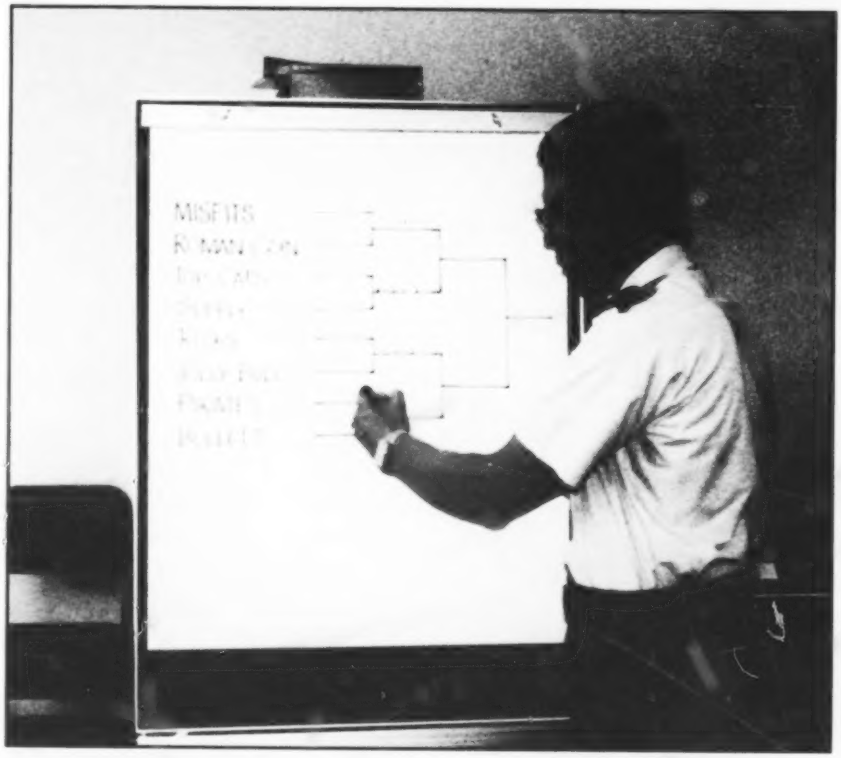
Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties require completion of college-level accounting courses.

Helpful Attributes

Helpful fields of study include physical education, parks and recreation, and business or public administration. Helpful attributes include:

- Preference for working closely with people
- Interest in sports and physical fitness
- Interest in planning and organizing activities



Work Environment

Recreation directors work both indoors and outdoors, at sports arenas, recreation facilities, and theaters.

Training Provided

Job training consists of 7 weeks of classroom instruction. Course content typically includes:

- Principles of management
- Entertainment programming
- Financial management
- Service club management

Civilian Counterparts

Civilian recreation directors work for parks, hospitals, nursing homes, cruise ships, and community recreation centers. They perform duties similar to those performed by military recreation directors. Civilian recreation directors may also be called recreation supervisors or recreation superintendents.

Opportunities

The services have about 600 officers working as recreation directors. On average, they need 40 new directors each year. After job training, recreation directors may manage programs at smaller bases or be on the recreation staff at larger bases. Sometimes, recreation is but one of several activities an officer is assigned to manage.

RECRUITING MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each year, over 300,000 young men and women enlist in the military, making it the country's largest employer of youth. The services recruit young people with the kinds of talent needed to succeed in today's military. Recruiting managers plan and direct the activities of recruiting specialists who provide information to young people about military careers.

What They Do

Recruiting managers in the military perform some or all of the following duties:

- Plan programs to inform young people about military careers
- Direct staff in local recruiting offices who carry out programs to inform the public about military careers
- Speak with local civic groups, schools, parents, and young people about military careers
- Prepare reports and brief commanders on recruiting goals and results

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include personnel management, communications, and public relations. Helpful attributes include:

- Interest in working closely with people
- Ability to speak effectively to large and small groups

Work Environment

Recruiting managers usually work in offices.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian recruiting managers work for personnel departments in business and government, searching for employment candidates. They also work for colleges, directing the activities of recruiters in their effort to attract talented high school students.

Opportunities

The services have about 820 recruiting managers. On average, they need 60 new managers each year. Normally, officers must be in the military for a few years before they are eligible to become recruiting managers. They do not always make a career in the recruiting field. Some spend only a few years in recruiting and then change to another occupation, often in the field of personnel or administration. Officers remaining in recruiting may advance to senior management or command positions in this field.

STORE MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates retail stores for the convenience of service men and women. In some areas, particularly overseas, the goods and services offered at military stores, laundries, and barbershops are not otherwise available. Store managers direct the operation of retail service, food, and merchandise outlets. They also manage personnel who store food, supplies, and equipment.

What They Do

Store managers in the military perform some or all of the following duties:

- Direct personnel in purchasing, pricing, and selling food, supplies, and equipment
- Direct personnel in receiving, storing, and issuing supplies and equipment
- Supervise the inspection, care, and testing of products before their use or sale
- Plan training programs for new workers
- Direct inventory, accounting, and other recordkeeping activities
- Plan and prepare store budgets

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include management, accounting, marketing, business administration, and industrial management. Helpful attributes include:

- Interest in planning work schedules
- Interest in managing a business
- Interest in planning and directing the work of others

Work Environment

Store managers work in retail stores or warehouses on land and aboard ships.

Training Provided

Job training consists of between 5 and 10 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Accounting and recordkeeping
- Inventory control
- Retail store and warehouse management
- Personnel and office administration
- Budget management

Civilian Counterparts

Civilian store managers may work in many kinds of retail businesses. Some manage grocery, department, discount, and other large stores. Others manage warehouses that receive, store, and issue merchandise and supplies for retail outlets. Civilian store managers perform duties similar to those performed in the military. They may also be called retail store managers and distribution warehouse managers.

Opportunities

The services have about 2,200 store managers. On average, they need 140 new store managers each year. After job training, store managers are assigned to supply, exchange, or food service units. With experience, they may advance to senior management and command positions.

SUPPLY AND WAREHOUSING MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military needs vast amounts of supplies to feed and supply their personnel. Tons of materials such as food, fuel, medicine, and ammunition must be ordered, stored, and distributed each day. Supply and warehousing managers plan and direct personnel who order, receive, store, and issue equipment and supplies.

What They Do

Supply and warehousing managers in the military perform some or all of the following duties:

- Analyze the demand for supplies and forecast future needs
- Direct personnel who receive, inventory, store, and issue supplies and equipment
- Manage the inspection, shipping, handling, and packaging of supplies and equipment
- Direct the preparation of reports and records
- Evaluate bids and proposals submitted by potential suppliers
- Study ways to use space and distribute supplies efficiently

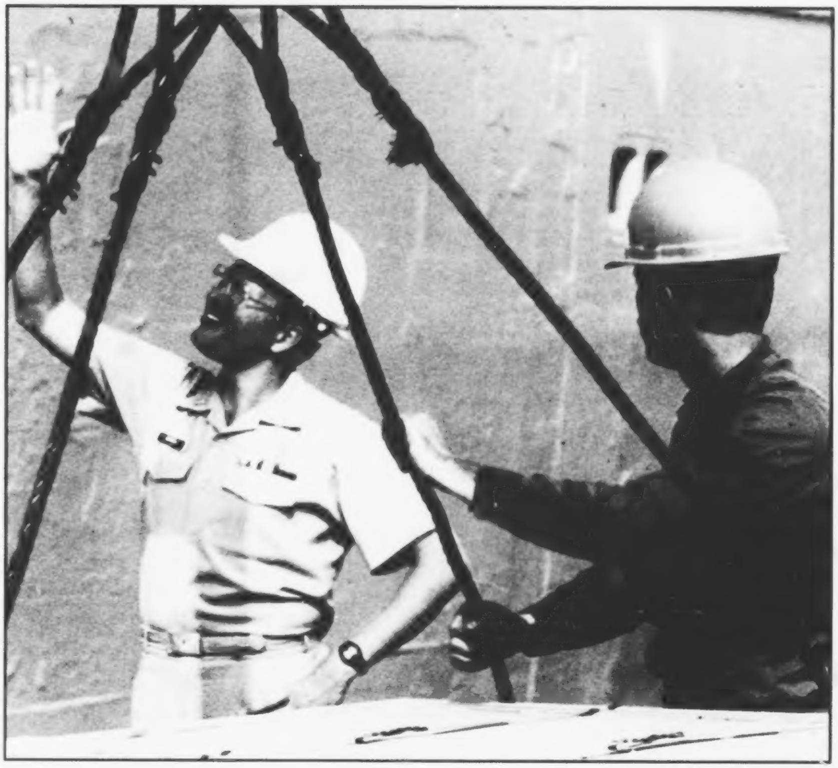
Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include business administration, inventory management, and operations research. Helpful attributes include:

- Interest in planning and directing the work of others
- Ability to express ideas clearly and concisely



Work Environment

Supply and warehousing managers usually work in offices and warehouses. At times, they may be exposed to loud noise from machines and equipment.

Training Provided

Job training consists of between 2 and 16 weeks of classroom instruction. Training length varies depending on the specialty. Course content typically includes:

- Warehousing and storage procedures
- Handling and packaging procedures
- Administrative procedures
- Field supply management
- Planning for future supply needs

Civilian Counterparts

Civilian supply and warehousing managers work for storage companies, manufacturers, hospitals, schools, and government agencies. They perform duties similar to those performed by military supply and warehousing managers. They may also be called warehouse managers or operations managers.

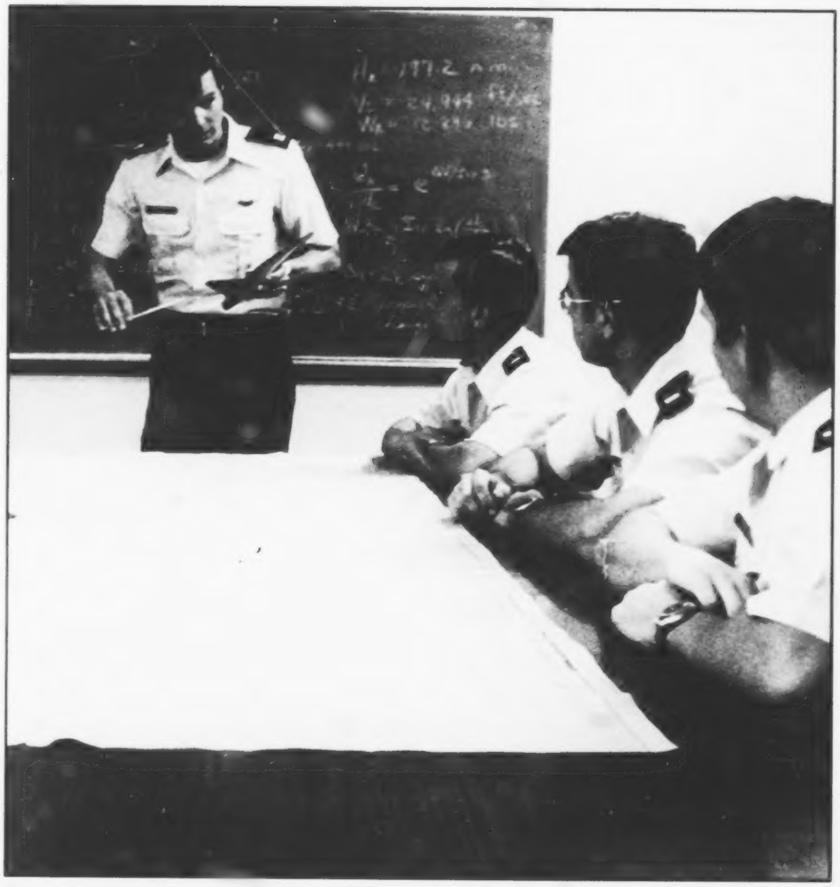
Opportunities

The services have about 9,200 supply and warehousing managers. On average, they need 510 new managers each year. After job training, supply and warehousing managers are assigned to positions in supply or munitions management. With experience, they may advance to senior management or command positions.

TEACHERS AND INSTRUCTORS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military provides training and educational opportunities for all personnel. Teachers and instructors conduct classes in such academic subjects as engineering, physical science, social science, and nursing. Teachers and instructors teach military personnel subjects that are related to their military occupations.



What They Do

Teachers and instructors in the military perform some or all of the following duties:

- Develop course content, training outlines, and lesson plans
- Prepare training aids, assignments, and demonstrations
- Deliver lectures
- Conduct laboratory exercises and seminars
- Give tests and evaluate student progress
- Diagnose individual learning difficulties and offer help

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties require a master's degree.

Helpful Attributes

Helpful attributes include:

- Ability to express ideas clearly and concisely
- Interest in teaching
- Preference for working closely with people

Work Environment

Teachers and instructors usually work in classrooms and lecture halls.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian teachers and instructors work in junior colleges, colleges, and universities. They perform duties similar to those performed in the military. They may teach several different courses within the same field of study.

Opportunities

The services have about 2,740 officers working as teachers or instructors. On average, 150 officers become military teachers and instructors each year. They are usually selected from officers trained and working in a military occupation. Many officers return to their regular occupations after teaching, but some remain as full-time teachers. Eventually, teachers may become tenured professors at the service academies or other military colleges or managers of education programs.

TRANSPORTATION MAINTENANCE MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military's transportation system is made up of many different kinds of carriers, including ships, aircraft, trucks, and buses. Repair and maintenance schedules for each type of vehicle must be carefully planned and managed. Transportation maintenance managers direct personnel who repair and maintain the military's transportation equipment.

What They Do

Transportation maintenance managers in the military perform some or all of the following duties:

- Direct repair shop and garage operations
- Set work schedules for repair shop staff
- Oversee the ordering and use of repair parts, equipment, and supplies
- Check repairs to make sure they are complete and finished on schedule
- Oversee the preparation of maintenance records and reports
- Develop maintenance standards and policies
- Plan and develop training programs for staff

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include business administration, transportation management, vehicle and maintenance operations, and mechanical engineering. Helpful attributes include:

- Interest in planning and directing the work of others
- Interest in developing detailed plans

Work Environment

Transportation maintenance managers work in offices located in maintenance yards, shops, and garages.

Training Provided

Job training consists of between 16 and 22 weeks of classroom instruction. Course content typically includes:

- Management of aircraft or aircraft electronics (avionics) maintenance
- Management of vehicle, railroad, and other equipment maintenance
- Use of management information systems

Civilian Counterparts

Civilian transportation maintenance managers work in auto, bus, truck, and heavy construction equipment repair garages. They also work for aircraft service companies, aircraft builders, and commercial airline companies. They perform duties similar to those performed by military transportation maintenance managers.

Opportunities

The services have about 9,900 transportation maintenance managers. On average, they need 470 new transportation maintenance managers each year. After job training, transportation maintenance managers gain experience managing maintenance personnel. In time, they may become managers of larger maintenance facilities and advance to command positions.

TRANSPORTATION MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Each year the military transports thousands of service men and women and tons of material to bases across the U.S. and overseas. Ships, aircraft, trucks, buses, and trains are all part of the military's transportation system. Transportation managers direct the transport of military personnel and material by air, road, rail, and water.

What They Do

Transportation managers in the military perform some or all of the following duties:

- Determine the fastest most economical way to transport cargo or personnel
- Direct the packing and crating of cargo
- Direct the loading of freight and passengers
- Schedule shipments to ensure fast and timely deliveries
- Schedule pick-up and delivery of shipments
- Oversee the handling of special items, such as medicine and explosives
- See that transport forms, records, and reports are prepared correctly

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include transportation management, supply management, operations research, and business or public administration. Helpful attributes include:

- Interest in planning and directing the work of others
- Ability to work under tight schedules

Work Environment

Transportation managers work in cargo and passenger terminals and depots.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Transportation management
- Ways to work with civilian and other military service carriers
- Freight classifications
- Handling of special items, such as medicine and explosives

Civilian Counterparts

Civilian transportation managers work for airlines, railroads, bus lines, trucking companies, and shipping firms. They perform duties similar to those performed by military transportation managers. However, civilian transportation managers normally specialize in one area of transportation, such as air, water, truck, or railroad transportation.

Opportunities

The services have about 5,400 transportation managers. On average, they need 310 new transportation managers each year. After job training, transportation managers gain experience on the job. In time, they may advance to senior management or command positions in cargo transportation operations.

Human Services Occupations

- Chaplains
- Social Workers

CHAPLAINS

Army
Navy
Air Force

The military provides for the spiritual needs of its personnel by offering religious services, moral guidance, and counseling. Chaplains conduct military worship services for military personnel and perform other spiritual duties covering beliefs and practices of all religious faiths.

What They Do

Chaplains in the military perform some or all of the following duties:

- Conduct worship services in a variety of religious faiths
- Perform religious rites and ceremonies, such as weddings and funeral services
- Visit and provide spiritual guidance to personnel in hospitals and to their families
- Counsel individuals who seek guidance
- Promote attendance at religious services, retreats, and conferences
- Oversee religious education programs, such as Sunday school and youth groups
- Train lay leaders who conduct religious education programs
- Prepare religious speeches and publications

Special Qualifications

A master's degree in theology is required to enter this occupation. Ordination and ecclesiastical endorsement from a recognized religious denomination are also required.

Helpful Attributes

Helpful attributes include:

- Ability to express ideas clearly and concisely
- Interest in planning and directing the work of others
- Sensitivity to the needs of others

Training Provided

Job training consists of between 3 and 7 weeks of classroom instruction. Course content typically includes:

- Role and responsibility of military chaplains
- Administration and leadership techniques
- Training and education methods
- Procedures for planning programs
- Pastoral counseling methods

Further training occurs on the job and through advanced courses.

Work Environment

Chaplains in the military usually work in offices, hospitals, and places of worship. Those assigned to sea duty work aboard ship. Those assigned to land combat units sometimes work outdoors.

Civilian Counterparts

Civilian chaplains work in places of worship, hospitals, universities, and correctional institutions. They perform duties similar to those performed in the military. However, they are almost always affiliated with a particular religious faith. Chaplains are also called clergy, ministers, preachers, priests, or rabbis.

Opportunities

The services have about 3,300 chaplains of various faiths. On average, they need 170 new chaplains each year. Military chaplains may advance to become directors of religious programs in their services.

SOCIAL WORKERS

Army
Navy
Air Force

The military needs close cooperation and a spirit of teamwork among its men and women. Social workers focus on improving conditions that cause social problems, such as drug and alcohol abuse, racism, and sexism.

What They Do

Social workers in the military perform some or all of the following duties:

- Counsel military personnel and their family members
- Supervise counselors and caseworkers
- Survey military personnel to identify problems and plan solutions
- Plan social action programs to rehabilitate personnel with problems
- Plan and monitor equal opportunity programs
- Conduct research on social problems and programs
- Organize community activities on military bases

Physical Demands

Social workers need to be able to speak clearly and distinctly to work with clients.

Special Qualifications

A 4-year college degree in social work or related social sciences is required to enter this occupation. Some specialties require a master's degree.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Sensitivity to the needs of others
- Ability to express ideas clearly and concisely
- Interest in research and teaching

Work Environment

Social workers in the military usually work in offices or clinics.

Training Provided

Job training consists of between 16 and 24 weeks of instruction. Course content typically includes:

- Ways of controlling drug and alcohol abuse among military personnel
- Management of equal opportunity programs

Civilian Counterparts

Civilian social workers work for hospitals, human service agencies, and federal, state, county, and city governments. They perform duties similar to those performed by military social workers. However, civilian social workers usually specialize in a particular field, such as family services, child welfare, or medical services. They may also be called social group workers, medical social workers, psychiatric social workers, and social welfare administrators.

Opportunities

The services have about 870 social workers. On average, they need 40 new social workers each year. After job training, social workers are assigned to counseling or assistance centers. With experience, they may advance to senior management positions.

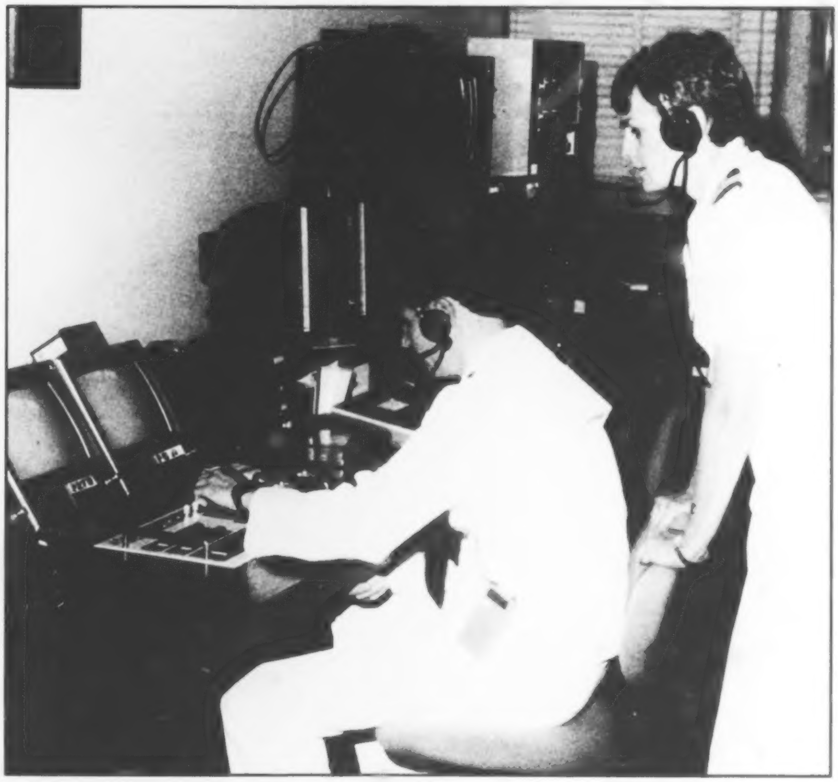
Media and Public Affairs Occupations

- Audiovisual Production Directors
- Band Managers
- Public Information Officers

AUDIOVISUAL PRODUCTION DIRECTORS

Army
Navy
Air Force
Marine Corps

The services produce many motion pictures, video tapes, and TV and radio broadcasts. These productions are used for training, news, and entertainment. Audiovisual production directors manage audiovisual projects. They may direct day-to-day filming or broadcasting or manage other directors.



What They Do

Audiovisual production directors in the military perform some or all of the following duties:

- Plan and organize audiovisual projects, including films, video tapes, TV and radio broadcasts, and artwork displays
- Determine the staff and equipment needed for productions
- Set production controls and performance standards for audiovisual projects
- Direct the preparation of scripts and determine camera shooting schedules
- Direct actors and technical staff during performances

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include audiovisual production, cinematography, communications, and graphic arts. Helpful attributes include:

- Interest in organizing and planning activities
- Interest in planning and directing the work of others
- Ability to transform ideas into visual images

Work Environment

Audiovisual production directors usually work in studios or offices. They may direct film crews on location in military camps or combat zones.

Training Provided

Job training consists of between 15 and 99 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Public information management principles
- Management of military broadcasting facilities
- Motion picture and television production management

Civilian Counterparts

Civilian audiovisual production directors work for television networks and stations, motion picture companies, public relations and advertising firms, and government agencies. They perform duties similar to those performed by military audiovisual directors.

Opportunities

The services have about 210 audiovisual production directors. On average, they need 25 new audiovisual production directors each year. After job training, audiovisual production directors work in production units directing the work of audiovisual technicians and specialists. In time, they may advance to management positions in the broadcasting and public affairs fields.

BAND MANAGERS

Army
Navy
Air Force
Marine Corps

Bands have a long tradition in the armed services. Military bands all over the world provide music for marching and parade activities, concerts, and stage presentations. Band managers plan, develop, and direct the activities of military bands. They also conduct band performances during concerts and parades.

What They Do

Band managers in the military perform some or all of the following duties:

- Plan musical programs
- Lead bands and choirs in performances
- Supervise training and rehearsal of musicians and choirs
- Determine funding needs for bands and choirs
- Plan purchases of instruments, equipment, and facilities
- Provide commanders with ideas for musical programs and ceremonies

Physical Demands

A "good ear" for musical notes is required.

Special Qualifications

A 4-year college degree in music or music education is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in music theory
- Appreciation for many types of music, including marches, classics, pop, and jazz
- Interest in planning and organizing the work of others

Work Environment

Band managers usually work in offices and band halls. They may work outdoors when conducting or practicing for parades.

Training Provided

Job training consists of between 20 and 40 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Band arranging and conducting
- Concert and marching band styles and techniques
- Band administration and management

Civilian Counterparts

Many civilian band managers work for college and high school music departments and civic and community orchestras. Others work in the motion picture, television, and studio recording industries. Civilian band managers perform duties similar to those performed in the military. They may also be called band directors, band leaders, orchestra leaders, or conductors.

Opportunities

The services have about 120 band managers. On average, they need 10 new band managers each year. After job training, band managers are assigned to military band units, where they plan and direct musical programs. With experience, they may assume command of larger military bands or direct the activities of several bands.

PUBLIC INFORMATION OFFICERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The services have public information officers to keep the public informed about the military. These officers answer questions from the news media, members of Congress, private citizens, and service personnel. They also prepare reports and news releases about activities on military bases and service policies and operations.

What They Do

Public information officers in the military perform some or all of the following duties:

- Supervise the preparation of reports and other releases to the public and the military
- Brief military personnel before they meet with the public and the news media
- Provide information to newspapers, TV and radio stations, and civic organizations
- Schedule and conduct interviews and news conferences
- Plan activities to improve public relations

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include journalism, communications, public relations, and advertising. Helpful attributes include:

- Ability to write clearly and simply
- Ability to speak effectively in public
- Interest in news and current events

Training Provided

Job training consists of 8 weeks of classroom instruction. Course content typically includes:

- Department of Defense policies
- Principles of public information and community relations

Civilian Counterparts

Civilian public information officers work for large corporations, government agencies, colleges and universities, and community groups. They perform duties similar to those performed by military public information officers. They may also be called public relations representatives and corporate communications specialists.

Work Environment

Public information officers usually work in offices.

Opportunities

The services have about 980 public information officers. On average, they need 50 new public information officers each year. After job training, public information officers normally direct specialists who gather information for reports, respond to requests for information, and write news releases. With experience, public information officers prepare and give briefings, speeches, and interviews. Eventually, they may advance to senior public affairs positions.

Health Diagnosing and Treating Practitioner Occupations

- Dentists
- Optometrists
- Physicians and Surgeons
- Podiatrists
- Psychologists
- Veterinarians

DENTISTS

Army
Navy
Air Force

Dental care is a basic health service provided to men and women in the military. Military dentists examine, diagnose, and treat diseases and disorders of the mouth. They may practice general dentistry or work in one of several specialties.

What They Do

Dentists in the military perform some or all of the following duties:

- Examine patients' teeth and gums to detect signs of disease or tooth decay
- Examine X-rays to determine the soundness of teeth and the alignment of teeth and jaws
- Locate and fill tooth cavities
- Perform oral (mouth) surgery to treat problems with teeth, gums, or jaws
- Develop and fit dentures (artificial teeth) to replace missing teeth
- Construct and fit dental devices, such as braces and retainers, for straightening teeth
- Plan dental health programs for patients to help prevent dental problems

Special Qualifications

A doctor of dentistry degree and additional training in a dental specialty are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Good eye-hand coordination

Work Environment

Dentists work in hospitals and dental clinics on land and aboard ships.

Civilian Counterparts

Civilian dentists work in private practice, public health facilities, and dental research organizations. They perform duties similar to those performed in the military and specialize in similar areas. Depending on their specialty, dentists may also be called oral pathologists, endodontists, oral surgeons, orthodontists, pedodontists, prosthodontists, periodontists, or public health dentists.

Training Provided

No initial job training is provided to officers in this occupation.

Opportunities

The military has about 4,840 dentists. On average, the services need 480 new dentists each year. Newly commissioned dentists are assigned to dental clinics to practice general dentistry or a dental specialty. Dentists who demonstrate leadership and managerial qualities may advance to administer dental facilities and programs.

OPTOMETRISTS

Army
Navy
Air Force

Eye care is part of the full health coverage provided to military personnel. The most common eye problem is the need for corrective lenses. Optometrists examine eyes and treat vision problems by prescribing glasses or contact lenses. They refer patients with eye diseases to ophthalmologists (eye medical doctors).

What They Do

Optometrists in the military perform some or all of the following duties:

- Check patient vision using eye charts
- Examine eyes for glaucoma and other diseases
- Measure patient nearsightedness, farsightedness, depth perception, and other vision problems using optical instruments
- Prescribe corrective lenses
- Prescribe training exercises to strengthen weak eye muscles
- Instruct patients on how to wear and care for contact lenses

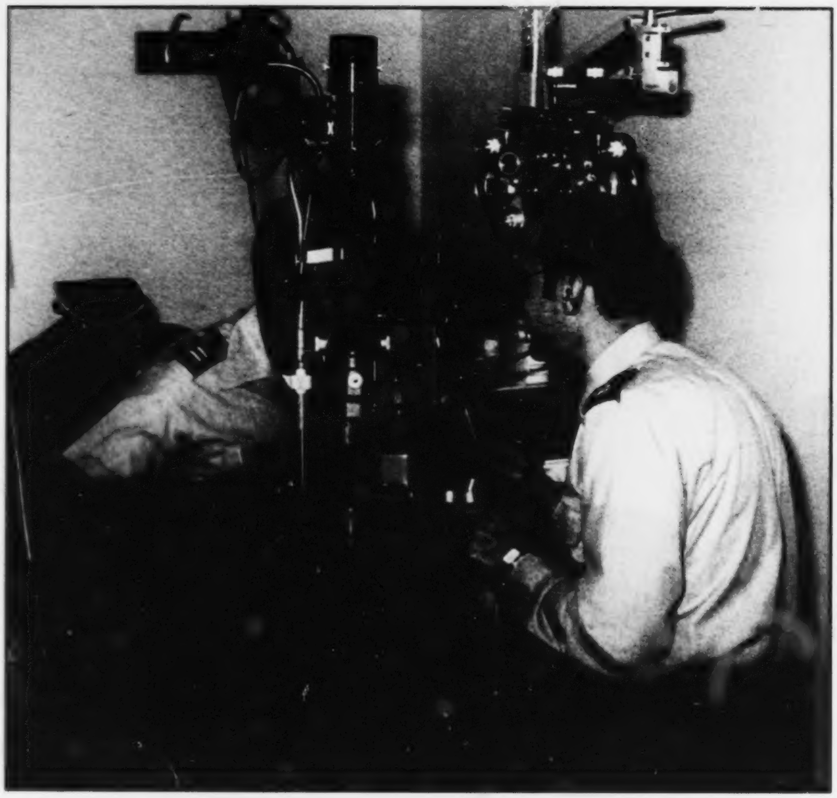
Special Qualifications

A doctor of optometry degree and a state license to practice optometry are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Preference for working closely with people
- Desire to help others
- Interest in work requiring accuracy and attention to detail



Work Environment

Optometrists work in clinics and hospitals.

Training Provided

No initial job training is provided to officers in this occupation. The Army has a program to provide financial support to optometry students in return for a period of obligated service.

Civilian Counterparts

Most civilian optometrists work in private practice. Some work for hospitals, clinics, public health agencies, or optical laboratories. Civilian optometrists perform duties similar to those performed in the military.

Opportunities

The services have about 550 optometrists. On average, they need 90 new optometrists each year. Newly commissioned optometrists are assigned to clinics or hospitals. In time, they may advance to senior management positions in the health service field.

PHYSICIANS AND SURGEONS

Army
Navy
Air Force

Military physicians and surgeons represent all of the major fields of medical specialization. Physicians and surgeons are the chief providers of medical services to military personnel and their dependents. They examine patients, diagnose their injuries or illnesses, and provide medical treatment.

What They Do

Physicians and surgeons in the military perform some or all of the following duties:

- Examine patients to detect abnormalities in pulse, breathing, or other body functions
- Determine presence and extent of illness or injury by reviewing medical histories, X-rays, laboratory reports, and examination reports
- Develop treatment plans that may include medication, therapy, or surgery
- Perform surgery to treat injuries or illnesses
- Advise patients on their health problems and personal habits
- Coordinate the activities of nurses, physician assistants, medical specialists, therapists, and other medical personnel
- Conduct medical research

Special Qualifications

A doctor of medicine or osteopathy degree and advanced training in a medical specialty are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Ability to express ideas clearly and concisely

Work Environment

Physicians and surgeons work in hospitals and clinics on land and aboard ship.

Training Provided

No initial job training is provided to officers in this occupation. However, advanced courses and programs in medical specialties are available.

Civilian Counterparts

Civilian physicians work for hospitals or clinics or in private practice. They perform the same duties and work in the same areas of specialization as military physicians.

Opportunities

The services have a total of about 12,020 physicians and surgeons, including all general practitioners and specialists. On average, they need 1,120 new physicians and surgeons each year. The services normally hire physicians who have completed medical school and their internships. However, some services have programs to grant early officer commissions to civilians who are in medical school, internship, or residency status in return for an obligated period of service. There are also scholarship programs for medical students. After gaining experience in the military, physicians and surgeons may advance to senior management or command positions in the services' medical corps.

PODIATRISTS

Army
Navy
Air Force

The military provides the full range of health care services to its personnel. Some military doctors specialize in treating certain parts of the body. Podiatrists diagnose and treat foot injuries or diseases.

What They Do

Podiatrists in the military perform some or all of the following duties:

- Examine feet to discover the causes of ailments
- Arrange for laboratory tests and diagnostic X-rays
- Treat foot ailments, such as fractures, muscle damage, bunions, and in-grown toe nails
- Perform foot surgery when necessary
- Plan rehabilitation programs to help patients regain full use of their feet
- Instruct and supervise assistants

Special Qualifications

A medical degree in podiatry is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Patience in working with people whose injuries heal slowly

Work Environment

Podiatrists work in clinics and hospitals on land and aboard ship.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian podiatrists work for hospitals or clinics and in private practice. They perform duties similar to those performed by military podiatrists.

Opportunities

The services have about 100 podiatrists. On average, they need 15 new podiatrists each year. Newly commissioned podiatrists are assigned to medical units, where they treat patients. With experience, they may advance to senior management or command positions in the medical corps and become responsible for health service administration.

PSYCHOLOGISTS

Army
Navy
Air Force

Psychological research and treatment are important to national defense. Research can show how to improve military training, job assignment, and equipment design. Treatment can help personnel cope with stress. Psychologists conduct research on human behavior and treat patients with mental problems.

What They Do

Psychologists in the military perform some or all of the following duties:

- Conduct research on human and animal behavior, emotions, and thinking processes
- Conduct research on aptitude and job performance
- Give psychological tests and interpret results to diagnose patients' problems
- Treat patients individually and in groups
- Conduct experiments to determine the best equipment design, work procedures, and training course content
- Write research reports
- Direct research projects performed by outside contractors

Special Qualifications

A 4-year college degree in psychology is required to enter this occupation. Some specialties require a master's degree.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Interest in scientific research
- Interest in mathematics and statistics

Work Environment

Psychologists usually work in offices, hospitals, clinics, and other medical facilities on land and aboard ship.

Civilian Counterparts

Some civilian psychologists treat patients in private practice, hospitals, school systems, and mental health centers. They are called clinical psychologists, counseling psychologists, or educational psychologists. Other civilian psychologists conduct research work for universities, research firms, and government agencies. They are called experimental psychologists, social psychologists, and psychometricians.

Training Provided

No initial job training is provided for officers in this occupation. Advanced courses are available in some specialties.

Opportunities

The services have about 690 psychologists. On average, they need 60 new psychologists each year. Newly commissioned research psychologists assist experienced officers in conducting experiments and research. With experience, they may lead projects of their own. New clinical psychologists may treat patients in military clinics. Eventually, both research and clinical psychologists may become directors of offices or laboratories.

VETERINARIANS

Army
Air Force

The military is the largest employer of veterinarians in the United States. Military veterinarians help protect the health of military personnel by studying diseases transmitted to humans from food and animals. They inspect food and food processing plants for disease and parasites. They also treat guard dogs, horses, and other animals.

What They Do

Veterinarians in the military perform some or all of the following duties:

- Inspect food to determine its condition and quality
- Inspect meat packing, food processing, and food storage plants for cleanliness
- Plan measures to control contagious diseases that may be transmitted by food or animals
- Inoculate animals against infectious diseases such as rabies and encephalitis
- Study the effects of diseases, poisons, and radiation on laboratory animals
- Treat sick or injured military guard dogs, horses, and other animals
- Research animal diseases

Special Qualifications

A doctor of veterinary medicine degree and experience in a veterinary specialty are required to enter this occupation.

Work Environment

Veterinarians work in food processing or storage plants or in veterinary clinics and laboratories. They may work outdoors while examining animals or inspecting military facilities for sanitary conditions.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Interest in medicine and medical research
- Interest in working with animals
- Interest in collecting and analyzing scientific data

Training Provided

No initial job training is provided to officers in this occupation. However, advanced courses are offered in food inspection and hygiene.

Civilian Counterparts

Most civilian veterinarians work in private practice providing medical care and treatment for animals. Some veterinarians work in government agencies such as the U.S. Food and Drug Administration and U.S. Public Health Service. Few civilian veterinarians perform the food inspection functions of military veterinarians.

Opportunities

The military has about 500 veterinarians. On average, the services need 60 new veterinarians each year. Newly commissioned veterinarians are assigned various veterinary specialties, ranging from disease research to food inspection. After demonstrating leadership qualities, veterinarians may advance to senior management or command positions within the veterinary field.

Health Care Occupations

- Dietitians
- Environmental Health Officers
- Occupational Therapists
- Pharmacists
- Physical Therapists
- Physician Assistants
- Registered Nurses
- Speech Therapists

DIETITIANS

Army
Navy
Air Force

Dietitians are part of the military's health care staff. They are experts in the nutritional needs of hospital patients and outpatients. Dietitians manage medical food service facilities and plan meals for hospital patients and outpatients who need special diets.

What They Do

Dietitians in the military perform some or all of the following duties:

- Set policies for hospital food service operations
- Inspect hospital food service and preparation areas to be sure they meet sanitation and safety standards
- Plan and organize training programs for medical food service personnel
- Develop special diets for patients based on instructions from doctors
- Plan menus for hospital meals
- Interview patients to determine whether they are satisfied with their diet
- Develop hospital food service budgets
- Provide information on nutrition to the military community

Special Qualifications

A 4-year college degree in food and nutrition or institutional management is required to enter this occupation. Some specialties require completion of a general dietetic internship.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Interest in nutrition and food preparation
- Interest in interpreting scientific and medical data

Work Environment

Dietitians work in hospitals, clinics, and aboard ship.

Civilian Counterparts

Civilian dietitians work in hospitals, clinics, and other health care facilities. They perform duties similar to those performed by military dietitians. Dietitians also work for college food services, restaurants, industrial food services, and research institutions. Civilian dietitians may specialize in specific areas of dietetics, such as consultation, clinical dietetics, and community health.

Training Provided

No initial job training is provided to officers in this occupation. However, the Air Force and Army offer internship programs in dietetics that are approved by the American Dietetic Association.

Opportunities

The services have about 300 dietitians. On average, they need 30 new dietitians each year. Newly commissioned dietitians are assigned to military hospitals, clinics, or ships, where they plan and direct the work of food service personnel. They may advance to senior management positions in hospital food service programs.

ENVIRONMENTAL HEALTH OFFICERS

Army
Navy
Air Force
Coast Guard

The services take great care to ensure safe working conditions and a clean environment. A clean, safe and healthy environment results in happier employees and better work. Environmental health specialists study the air, ground, and water to identify and analyze sources of pollution and its effects. They also direct programs to control safety and health hazards in the work place.

What They Do

Environmental health specialists in the military perform some or all of the following duties:

- Determine methods to collect environmental data for research projects and surveys
- Analyze data to identify pollution problem areas
- Inspect food samples to detect any spoilage or disease
- Develop pollution control plans and policies
- Conduct health education programs
- Work with civilian public health officials in performing studies and analyzing results

Special Qualifications

A 4-year college degree is normally required to enter this occupation. A degree in biomedical or biological science is required to enter some specialties in this occupation.

Work Environment

Environmental health specialists normally work in offices or research laboratories. They work outdoors while conducting environmental studies and surveys or inspecting facilities.

Helpful Attributes

Helpful fields of study include chemistry, biology, environmental sciences, soil science, civil engineering, and veterinary science. Helpful attributes include:

- Interest in protecting the environment
- Interest in conducting research or analytical studies
- Interest in work requiring accuracy and attention to detail

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian environmental health specialists work for engineering firms, manufacturing firms, and government agencies. They perform duties similar to those performed by military environmental health specialists. Depending on their specialty, they may be called environmental scientists, air pollution analysts, soil analysts, industrial hygienists, or water quality analysts.

Opportunities

The services have about 390 environmental health specialists. On average, they need 25 new environmental health specialists each year. New environmental health specialists are assigned to environmental health teams. After demonstrating leadership qualities, they may advance to senior management or command positions.

OCCUPATIONAL THERAPISTS

Army
Navy
Air Force

Occupational therapy is a program of treatment and exercise for patients disabled from illness or injury. Through therapy patients learn to adjust to disabilities, regain independence, and prepare to return to work. Occupational therapists plan and administer therapy to help patients with physical, mental, or emotional disabilities. They give special treatment and exercises and sometimes fit patients with artificial arms and legs (prostheses).

What They Do

Occupational therapists in the military perform some or all of the following duties:

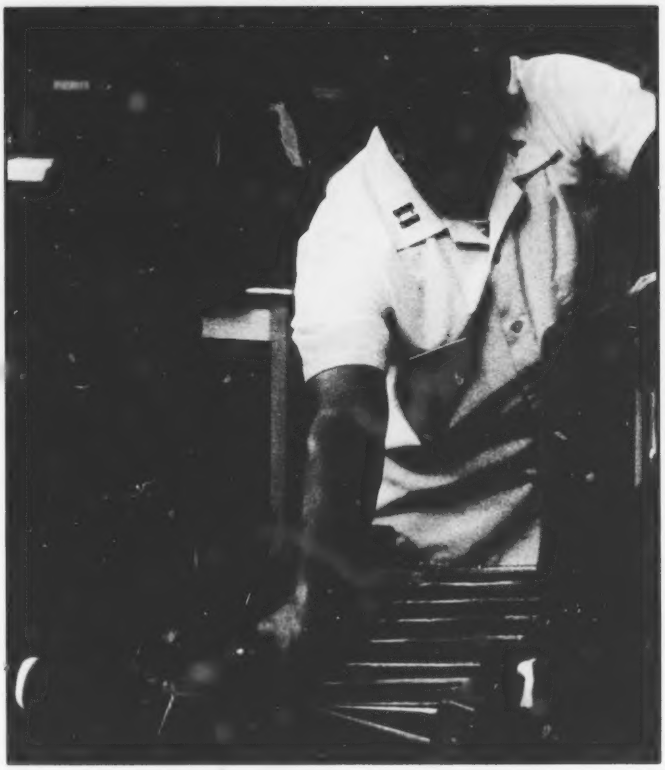
- Plan and manage occupational therapy programs
- Test and interview patients to diagnose the extent of their disabilities
- Consult with doctors and other therapists to determine appropriate therapy
- Supervise occupational therapy specialists in treating patients
- Evaluate the progress and improvement of patients during therapy
- Teach treatment, exercises, and the use of artificial devices to new therapists
- Set up and maintain therapeutic equipment, such as exercise machines and whirlpools

Physical Demands

Occupational therapists may have to lift and support patients during therapeutic exercises and treatment.

Special Qualifications

A 4-year college degree in occupational therapy and completion of a clinical program in occupational therapy are required to enter this occupation. Depending on speciality, eligibility for registration with the American Occupational Therapy Association may also be required.



Helpful Attributes

Helpful attributes include:

- Desire to help others
- Interest in developing detailed plans and treatments
- Patience to work with people whose injuries heal slowly
- Ability to communicate effectively

Work Environment

Occupational therapists work in hospitals, clinics, and rehabilitation centers.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian occupational therapists work in hospitals, rehabilitation centers, schools, and community mental health centers. They perform duties similar to those performed by military occupational therapists. Civilian occupational therapists often specialize in treating a particular type of patient, such as children, the elderly, or those who have lost arms or legs (amputees).

Opportunities

The services have about 140 occupational therapists. On average, they need 15 new therapists each year. Occupational therapists have the opportunity to advance to senior management or command positions in medical administration.

PHARMACISTS

Army
Navy
Air Force

Drugs and medicines are sometimes prescribed by doctors when treating patients in military hospitals and clinics. Pharmacists manage the purchasing, storing, and dispensing of drugs and medicines.

What They Do

Pharmacists in the military perform some or all of the following duties:

- Manage pharmacy technicians who prepare, label, and dispense orders for drugs and medicines
- Advise doctors and patients on the proper use and side effects of drugs and medicines
- Train medical, nursing, and pharmacy staffs on the use of drugs
- Consult on drug and medicine research programs
- Check drug and medicine supplies and reorder when necessary
- Direct pharmacy recordkeeping

Special Qualifications

A 4-year college degree in pharmacy and a state license to practice pharmacy are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in understanding the effects of drugs and medicines
- Interest in chemical formulas
- Interest in work requiring accuracy and attention to detail

Work Environment

Pharmacists work in hospitals and clinics on land and aboard ship.

Civilian Counterparts

Civilian pharmacists work for pharmacies, drug stores, and drug departments of stores and supermarkets. They also work for hospitals, nursing homes, and clinics. They perform duties similar to those performed by military pharmacists. Civilian pharmacists who specialize in radioactive drugs (radioisotopes) are known as radiopharmacists.

Training Provided

No initial job training is provided to officers in this occupation.

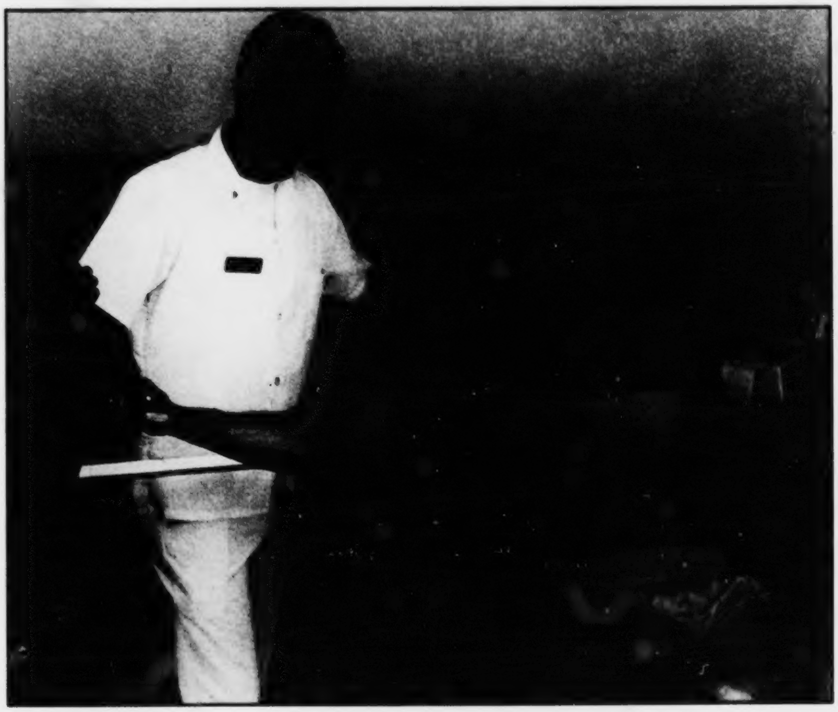
Opportunities

The services have about 500 pharmacists. On average, they need 40 new pharmacists each year. Newly commissioned pharmacists are assigned to military hospitals or clinics, where they manage daily operations. In time, pharmacists plan and direct pharmacy or other health programs.

PHYSICAL THERAPISTS

Army
Navy
Air Force

Physical therapy is a program of treatment and exercise to rehabilitate patients disabled because of illness or injury. Physical therapists plan and administer treatments to restore strength and mobility to ill or injured patients.



What They Do

Physical therapists in the military perform some or all of the following duties:

- Test and interview patients to determine the extent of their disabilities
- Consult with doctors to discuss and evaluate patients' progress
- Plan individual physical therapy programs
- Counsel patients and their families to help create a positive attitude for recovery
- Conduct exercise programs and give heat and massage treatments
- Conduct physical therapy research
- Instruct physical therapy specialists in methods and techniques of physical exercise
- Plan and help develop rehabilitation facilities containing exercise machines, whirlpools, and other equipment

Physical Demands

Physical therapists may have to lift and support patients during exercise and treatment.

Special Qualifications

A 4-year college degree in physical therapy, completion of a physical therapy internship program, and a state license to practice physical therapy are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Ability to express ideas clearly and concisely
- Interest in developing detailed plans and treatments
- Preference for working closely with people

Work Environment

Physical therapists work in hospitals, clinics, and other medical facilities.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian physical therapists work in hospitals, rehabilitation centers, and nursing homes. They perform duties similar to those performed by military physical therapists. Civilian physical therapists often specialize in treating a particular type of patient, such as children, the severely disabled, or the elderly.

Opportunities

The services have about 370 physical therapists. On average, they need 40 new therapists each year. Physical therapists may advance to senior management positions in military health care administration.

PHYSICIAN ASSISTANTS

Army
Navy
Air Force
Coast Guard

Physician assistants provide routine health care for patients, freeing physicians to concentrate on more serious health problems. Physician assistants examine, diagnose, and treat patients under the supervision of medical doctors.

What They Do

Physician assistants in the military perform some or all of the following duties:

- Record medical histories, examine patients, and make initial diagnoses
- Treat common illnesses or injuries, calling in supervising physicians for serious health problems
- Perform routine physical examinations and collect specimens for laboratory tests
- Order laboratory studies, such as blood tests, urine analysis, and X-rays
- Provide information to patients about diet, family planning, use of drugs, and the effect of treatments
- Provide emergency care in situations where doctors are not available

Special Qualifications

Graduation from an accredited training program for physician assistants that is recognized by the services is normally required to enter this occupation. Depending upon the service, however, military job training may be available.

Work Environment

Physician assistants work in hospitals and clinics on land and aboard ship.

Helpful Attributes

Helpful attributes include:

- Self-confidence and the ability to remain calm in stressful situations
- Patience with others, especially those in pain or stress
- Desire to help others
- Ability to express ideas clearly and concisely

Civilian Counterparts

Civilian physician assistants work in hospitals, clinics, doctor's offices, and nursing homes. They perform duties similar to those performed by military physician assistants.

Training Provided

Job training, when available from the services, consists of about 40 weeks of classroom instruction, including practice in providing patient health care. Course content typically includes:

- Fundamental medical care procedures
- Principles of behavioral and dental science
- Health care administration techniques

Opportunities

The services have about 1,130 physician assistants. On average, they need 130 new physician assistants each year. After job training, physician assistants provide health care under close supervision. With experience, they work more independently, although they remain under the supervision of a doctor. In time, they may advance to management positions in the military health care field.

REGISTERED NURSES

Army
Navy
Air Force

Nurses are a key part of the staff at military hospitals and clinics. Registered nurses direct nursing teams and give patients individual care to help them recover from illness or injury.

What They Do

Registered nurses in the military perform some or all of the following duties:

- Help physicians treat patients
- Give injections of pain killers, antibiotics, and other medicines as prescribed by physicians
- Change bandages and dressings
- Assist physicians during surgery
- Provide life support treatment for patients needing emergency care
- Provide care for mental health patients
- Keep records of patients' condition
- Supervise practical nurses, nurse aides, and other support personnel

Special Qualifications

Graduation from an accredited school of nursing and a license to practice nursing are required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Ability to express ideas clearly and concisely
- Self-confidence and the ability to remain calm under pressure

Work Environment

Registered nurses work in hospitals and clinics. Some work in sick bays aboard ship or in mobile field hospitals. Others work in airplanes that transfer patients to medical centers.

Training Provided

Job training consists of between 14 and 27 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Practices and principles of military nursing
- Care of emotionally disturbed patients
- Health care for children
- Nursing techniques
- Anesthesia, respiratory therapy, and cardiopulmonary resuscitation

Civilian Counterparts

Civilian registered nurses work in hospitals, clinics, and private medical facilities. They also work for public health agencies, nursing homes, and rehabilitation centers. Civilian registered nurses perform duties similar to those performed in the military. They often specialize and may be known as public health nurses, nurse practitioners, or general duty nurses.

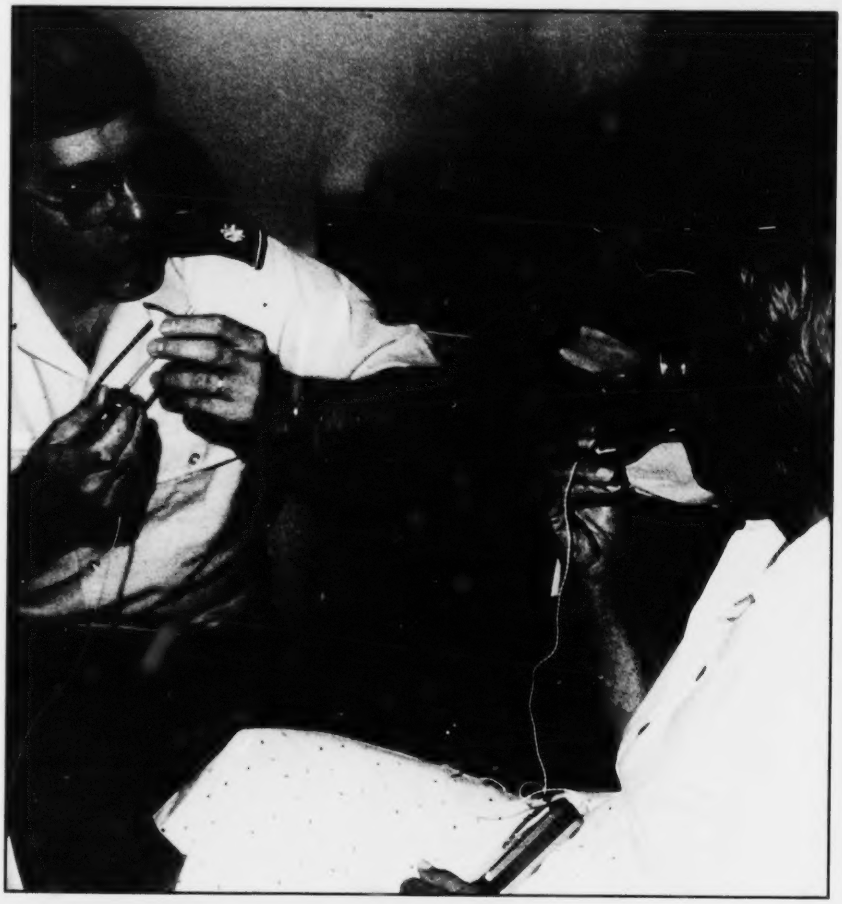
Opportunities

The services have about 11,500 registered nurses. On average, they need 800 new registered nurses each year. Depending on the prior experience that nurses bring with them to the military, their job assignments may vary. After job training, inexperienced nurses work under close supervision. Experienced nurses normally work under less supervision. In time, nurses may become nurse supervisors. Eventually, they may become directors of nursing in hospitals or advance to senior health service management positions.

SPEECH THERAPISTS

Army
Navy
Air Force

Speech therapists work as part of military medical teams. Speech therapists evaluate and treat patients with hearing and speech problems.



What They Do

Speech therapists in the military perform some or all of the following duties:

- Talk with patients to discuss hearing and speaking problems and possible causes and treatment
- Identify speaking and language problems
- Examine the ears, including the entire auditory (hearing) system
- Evaluate examination and test data to determine the type and amount of hearing loss
- Treat hearing problems using hearing aids and other treatments
- Assist patients in selecting and using hearing aids
- Conduct programs to help patients improve their speaking skills
- Research new techniques for treating hearing and speaking problems

Special Qualifications

A master's degree in either audiology or speech therapy is required to enter this occupation depending on the occupational speciality.

Helpful Attributes

Helpful attributes include:

- Desire to help others
- Interest in scientific work
- Patience to work with people whose injuries heal slowly

Work Environment

Speech therapists work in therapy labs, clinics, and medical centers.

Civilian Counterparts

Civilian speech therapists work in hospitals, clinics, schools, and research centers. They perform duties similar to those performed by military speech therapists. Depending on their specialty, civilian speech therapists may also be called audiologists or speech pathologists.

Training Provided

No initial job training is provided to officers in this occupational group.

Opportunities

The services have about 110 speech therapists. On average, they need 10 new therapists each year. After displaying leadership abilities, speech therapists may advance to senior management and command positions in the medical field.

Engineering, Science, and Technical Occupations

- Aerospace Engineers
- Air Traffic Control Managers
- Chemists
- Civil Engineers
- Computer Systems Development Officers
- Computer Systems Engineers
- Electrical and Electronics Engineers
- Industrial Engineers
- Intelligence Officers
- Lawyers
- Life Scientists
- Marine Engineers
- Meteorologists
- Nuclear Engineers
- Oceanographers
- Operations Analysts
- Physicists
- Space Operations Officers
- Surveying and Mapping Managers

AEROSPACE ENGINEERS

Navy
Air Force
Marine Corps
Coast Guard

Although private companies build the military's aerospace equipment, military engineers are responsible for seeing that all equipment meets service needs. Aerospace engineers design and direct the development of military aircraft, missiles, and spacecraft.

What They Do

Aerospace engineers in the military perform some or all of the following duties:

- Plan and conduct research on aircraft guidance, propulsion, and weapons systems
- Study new designs for aircraft, missiles, and spacecraft
- Help select private companies to build military aircraft, missiles, and spacecraft
- Monitor production of aircraft, missiles, and spacecraft
- Decide what tests should be conducted of prototypes (full-scale test models)
- Conduct stress analysis and wind tunnel tests with aircraft and missile prototypes

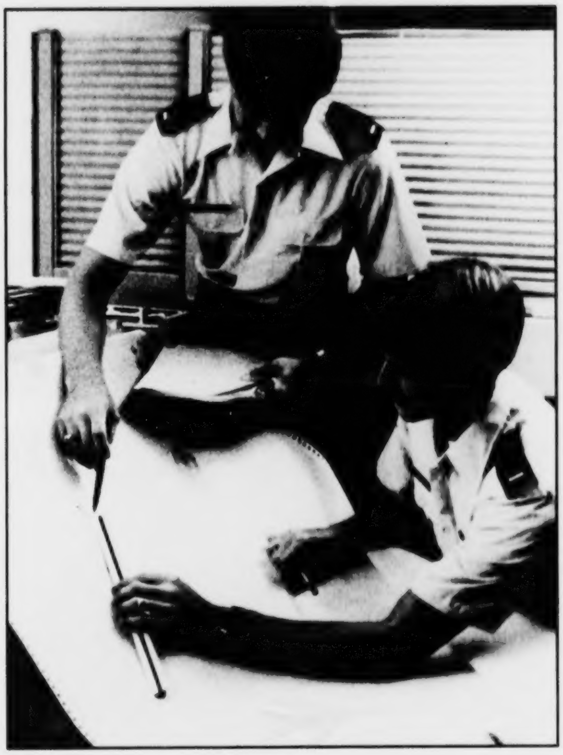
Special Qualifications

A 4-year college degree in aeronautical, astronautical, or mechanical engineering is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in concepts and principles of engineering
- Interest in working with mathematical formulas
- Interest in planning and directing research projects



Work Environment

Aerospace engineers work in offices or laboratories.

Civilian Counterparts

Civilian aerospace engineers usually work in the aircraft manufacturing industry. Some work for the Department of Defense, the National Aeronautics and Space Administration (NASA), and other government agencies. As in the military, civilian aerospace engineers may specialize in one type of aerospace product, such as aircraft, missiles, or space vehicles. They may also specialize in engineering specialties such as product design, testing, or production research. Depending on their specialty, they may be called aeronautical engineers, aeronautical test engineers, or stress analysts.

Training Provided

No initial job training is provided to officers in this occupation.

Opportunities

The services have about 1,600 aerospace engineers. On average, they need 160 aerospace engineers each year. Newly commissioned aerospace engineers are usually assigned to engineering research and development units or laboratories. They work under the direction of experienced officers conducting research. With experience, they may serve as research and development managers or laboratory managers.

AIR TRAFFIC CONTROL MANAGERS

Army
Navy
Air Force
Marine Corps

Air traffic control centers often have several sections giving instructions to military aircraft. One section gives take-off and landing instructions. Another gives ground instructions. A third section tracks planes in flight. Air traffic control managers direct the operations of air traffic control centers.

What They Do

Air traffic control managers in the military perform some or all of the following duties:

- Plan work schedules for air traffic controllers
- Evaluate job performance of controllers
- Manage air traffic control center operations to ensure safe and efficient flights
- Inspect control center facilities and equipment
- Direct tests of radar equipment and controller procedures
- Investigate and find solutions to problems in control center operations
- Control air traffic using radar and radios
- Direct training for air traffic controllers

Physical Demands

Air traffic control personnel must pass a demanding physical exam as required by the Federal Aviation Administration (FAA).

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Certification by the FAA must usually be obtained during military training.

Helpful Attributes

Helpful fields of study include aeronautical engineering, computer science, and liberal arts. Helpful attributes include:

- Interest in work requiring accuracy and attention to detail
- Ability to remain calm in stressful situations
- Decisiveness
- Ability to manage according to strict standards

Work Environment

Air traffic control managers work in air traffic control towers and centers at airfields and aboard ships.

Training Provided

Job training consists of between 6 and 11 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Air traffic control management
- Operational procedures for air traffic control
- Communications and radar procedures
- Aircraft recognition
- Take-off, landing, and ground control procedures

Civilian Counterparts

Civilian air traffic control managers work at commercial airports. They perform duties similar to those performed by military air traffic control managers.

Opportunities

The services have about 1,250 air traffic control managers. On average, they need 90 new air traffic control managers each year. After job training, managers are assigned to air traffic control centers at airfields or aboard ships, where they gain experience in air traffic control management. They may advance to senior management and command positions in the aviation field.

CHEMISTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military conducts research in chemistry and biochemistry to develop new materials for military equipment, better medicines, and defenses against biological and chemical agents. Chemists conduct and manage research in chemistry, chemical engineering, and biology.

What They Do

Chemists in the military perform some or all of the following duties:

- Conduct experiments in chemical synthesis, structure, and interactions
- Establish strength and durability standards for materials used to build aircraft, ships, and other equipment
- Test materials to identify defects and determine if they meet minimum military standards
- Conduct chemical research for military and medical uses, such as protecting people from radiation, chemicals, and biological agents
- Oversee research projects under contract to universities and industrial firms
- Prepare technical reports and make research recommendations

Special Qualifications

A 4-year degree in chemistry, chemical engineering, or biology is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in working with mathematical formulas
- Interest in scientific study and research

Work Environment

Chemists work in laboratories and offices. Although they observe strict safety precautions, chemists may be exposed to hazardous substances.

Civilian Counterparts

Civilian chemists usually work in research and development for private industry, primarily in new product development. They also work for government agencies, colleges, and universities. Civilian chemists perform duties similar to those performed by chemists in the military. They sometimes specialize in areas such as organic chemistry, inorganic chemistry, physical chemistry, or biochemistry.

Training Provided

No initial job training is provided to officers in this occupation.

Opportunities

The services have about 1,600 chemists. On average, they need 200 new chemists each year. Newly commissioned chemists are usually assigned to military laboratory facilities, where they perform duties in a chemistry specialty area. With experience, they may manage research and development units and advance to command positions.

CIVIL ENGINEERS

Army
Navy
Air Force
Coast Guard

Airfields, roads, bridges, buildings, power plants, docks, and water treatment plants on military bases around the world are continually being built, repaired, and improved. Civil engineers plan, design, and direct the construction of military facilities.

What They Do

Civil engineers in the military perform some or all of the following duties:

- Study the need for roads, airfields, buildings, and other facilities
- Direct surveys of construction areas
- Design construction projects
- Help select contractors to build facilities
- Check construction progress to see that it meets plans
- Plan and direct facility maintenance and modernization
- Plan temporary facilities for use in emergencies
- Keep master plans for military bases up to date

Special Qualifications

A 4-year college degree in architectural, civil, sanitary, or environmental engineering, or other closely related field is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in engineering principles and concepts
- Interest in working with mathematical formulas

Work Environment

Civil engineers work in offices when designing projects or reviewing reports. They work outdoors when overseeing survey or construction activities.

Civilian Counterparts

Civilian civil engineers work for engineering firms, construction companies, and government agencies. Some work for public utilities, railroads, and manufacturing firms. Civilian civil engineers perform duties similar to those performed in the military; however, they often specialize in certain types of projects.

Training Provided

No initial job training is provided to officers in this occupation. However, advanced courses are offered to support medical service and environmental control building programs.

Opportunities

The services have about 7,640 civil engineers. On average, they need 770 new civil engineers each year. Newly commissioned civil engineers usually assist senior engineering officers in planning and design. With experience, they may manage construction projects and, eventually, engineering offices. In time, they may advance to senior management or command positions in the engineering field.

COMPUTER SYSTEMS DEVELOPMENT OFFICERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Setting up large computer systems takes careful planning. Many decisions must be made about the input, output, and software needed to store information and solve problems. Computer systems development officers plan and design computer systems. They also design software used in computerized radar and communications equipment.

What They Do

Computer systems development officers in the military perform some or all of the following duties:

- Work with military units to determine their data processing needs
- Develop flow-chart diagrams or mathematical models of new computer systems
- Design and maintain computer software and data bases
- Design computer-to-computer linkages (interfaces)
- Write, test, and debug software
- Make systems secure from unofficial access
- Manage teams of systems analysts and programmers working on the designs of large systems

Special Qualifications

A 4-year degree in computer science, mathematics, computer or industrial engineering, or a related field is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Ability to work with abstract problems
- Interest in developing plans and procedures
- Interest in working with computers

Work Environment

Computer systems development officers usually work in offices.

Training Provided

Job training consists of between 6 and 18 weeks of classroom instruction. Training length varies by specialty. Course content typically includes:

- Systems analysis techniques
- Principles of computer equipment
- Computer systems development and management

Civilian Counterparts

Civilian computer systems developers work for organizations that have large computer systems, including banks, insurance companies, hospitals, large retailers, research firms, manufacturers, and government agencies. They perform duties similar to those performed by computer systems development officers in the military. They may also be called systems analysts and software engineers.

Opportunities

The services have about 3,700 computer systems development officers. On average, they need 400 new computer systems development officers each year. After job training, computer systems development officers may perform systems analysis work as part of a team. They may also manage teams of systems analysts and programmers. With experience, they may advance to senior management and command positions.

COMPUTER SYSTEMS ENGINEERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Determining the types of computer equipment needed for new data processing systems is a complex task. Storage, memory, and processing needs must be estimated. Input, output, and communications needs must also be considered. Computer systems engineers determine the types and amounts of computer hardware needed for computer systems.

What They Do

Computer systems engineers in the military perform some or all of the following duties:

- Estimate memory and processing needs to determine the size of the computer needed
- Determine the number of "peripherals" needed, such as terminals, disk drives, and printers
- Determine equipment and software needs for telecommunications linkages with remote equipment
- Plan and oversee the installation of new equipment
- Set standards for and evaluate performance of new computer systems
- Monitor contracts for hardware or computer services
- Solve technical problems that arise in computer systems

Special Qualifications

A 4-year college degree in computer science, computer engineering, or a related field is required to enter this occupation.

Work Environment

Computer systems engineers usually work in offices or at computer sites on military bases or aboard ships.

Helpful Attributes

Helpful attributes include:

- Interest in working with mathematical models and formulas
- Interest in technical work
- Interest in working with computers

Training Provided

Job training consists of between 5 and 13 weeks of classroom instruction. Training length varies depending upon specialty. Course content typically includes:

- Organization and management of computer systems facilities
- Techniques for analyzing computer hardware and software performance
- Computer systems life cycles

Civilian Counterparts

Civilian computer systems engineers work for computer and electronic communications systems manufacturers and suppliers, government agencies, public utilities, and firms that design and test computer systems. Some may be employed as private computer systems consultants. Civilian computer systems engineers perform duties similar to those performed in the military. They may also be called information processing engineers.

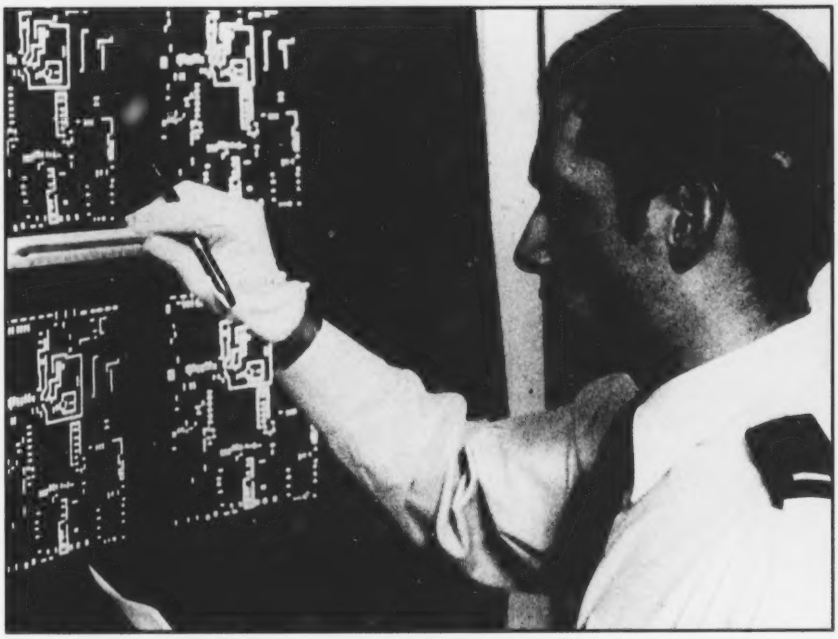
Opportunities

The services have about 4,050 computer systems engineers. On average, they need 490 new computer systems engineers each year. After job training, computer systems engineers are usually assigned to teleprocessing or data processing units where they work with other engineers, systems analysts, and computer programmers. With experience and demonstrated leadership, they may advance to management positions, such as communications director or data processing manager.

ELECTRICAL AND ELECTRONICS ENGINEERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Equipment such as radar, missile guidance systems, and communication equipment depends on advanced electronics. Electrical and electronics engineers design, develop and test electrical and electronic equipment. They also direct equipment installation and repair.



What They Do

Electrical and electronics engineers in the military perform some or all of the following duties:

- Direct research to improve and develop computer, navigation, and other electronic systems
- Direct equipment installation and repair
- Develop test standards and operating instructions for electrical and electronic systems
- Design and develop test instruments
- Test new or modified equipment to check its performance and reliability
- Review test data, report results, and recommend actions

Special Qualifications

A 4-year college degree in electrical, electronic, or communications engineering is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in engineering concepts and principles
- Interest in planning and directing research projects
- Interest in working with mathematical formulas

Work Environment

Electrical and electronics engineers usually work in offices while planning research studies and designing electronic systems. They may work outdoors when overseeing the installation of new equipment.

Civilian Counterparts

Civilian electrical and electronics engineers work for manufacturers of electrical and electronic equipment. Many work for government agencies, public utilities, and engineering firms. Civilian electrical and electronics engineers perform duties similar to those performed in the military. However, they usually specialize in product areas, such as computers, communications, or aerospace systems. They may also be called electronics design engineers and electronics test engineers.

Training Provided

Initial job training is usually provided on the job. Classroom training is provided for some specialties in this occupation. Course content typically includes:

- Combat and tactical communications systems
- Telecommunications center systems
- Signal center site defense systems

Opportunities

The services have about 5,440 electrical and electronics engineers. On average, they need 540 new engineers each year. After job training, electrical and electronics engineers are usually assigned to engineering research and development units or to communications centers. Initially, they conduct studies and supervise research and development staff. With experience, they may advance to senior management positions, such as engineering staff officer, research and development manager, or communications center director.

INDUSTRIAL ENGINEERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Because the military is so large, small savings in personnel or equipment costs can result in savings of millions of dollars. Industrial engineers design ways to improve how the military uses its people and equipment.

What They Do

Industrial engineers in the military perform some or all of the following duties:

- Study how workers and tasks are organized
- Measure work load and calculate how many people are needed to perform work
- Study and improve the way work is done and equipment is used
- Develop and direct environmental health and safety programs
- Plan and oversee the purchase of equipment and services
- Plan and direct quality control and production control programs

Special Qualifications

A 4-year college degree in industrial engineering, industrial management, or a related field is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in technical work
- Ability to plan and organize studies
- Interest in working with mathematical models and formulas
- Interest in working closely with people

Work Environment

Industrial engineers usually work in offices. They may work outdoors while performing field studies or overseeing the installation of equipment and systems.

Training Provided

Job training is offered for some specialties. Training length varies between 8 and 16 weeks of classroom instruction, depending on specialty. Course content typically includes:

- Management standards, principles, and policies
- Problem analysis and decision making
- Production and purchasing methods

Civilian Counterparts

Civilian industrial engineers work primarily in manufacturing and consulting firms. They also work in many industries and businesses, including insurance companies, retail stores, banks, public utilities, and hospitals. Civilian industrial engineers perform duties similar to those performed in the military. Depending on specialty, they may also be called production engineers, safety engineers, production planners, or quality control engineers.

Opportunities

The services have about 1,280 industrial engineers. On average, they need 120 new industrial engineers each year. After job training, industrial engineers are usually assigned to an engineering, management evaluation, or procurement unit. With experience, they may advance to command or policy-making positions in engineering, administration, or other fields.

INTELLIGENCE OFFICERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Information about the size, strength, location, and capabilities of enemy forces is essential to military operations and national defense. To gather information, the services rely on aerial photographs, human observation, and electronic monitoring using radar and supersensitive radios. Intelligence officers plan for and gather technical intelligence needed for military planning.

What They Do

Intelligence officers in the military perform some or all of the following duties:

- Direct sea, ground, and aerial surveillance
- Prepare plans to intercept foreign communications transmissions
- Direct the analysis of aerial photos and other intelligence data
- Oversee the writing of intelligence reports
- Brief commanders on intelligence findings
- Help plan military missions
- Direct the use of computer systems to store and process intelligence data
- Gather and analyze technical intelligence

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Work Environment

Intelligence officers work in offices on land and aboard ship. They may work in the field on maneuvers and military exercises.

Training Provided

Job training consists of between 23 and 26 weeks of classroom instruction. Course content typically includes:

- Air, ground, and sea intelligence operations
- Photograph interpretation and evaluation
- Use of radar and electronic surveillance equipment
- Reconnaissance equipment and weapons systems

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian intelligence officers generally work in federal agencies, such as the Central Intelligence Agency (CIA) and Federal Bureau of Investigation (FBI). They perform duties similar to those performed by military intelligence officers.

Helpful Attributes

Helpful fields of study include cryptology, computer science, mathematics, and engineering. Helpful attributes include:

- Interest in solving problems
- Interest in collecting and analyzing data
- Ability to organize and manage activities
- Ability to work with abstract problems

Opportunities

The services have about 9,400 intelligence officers. On average, they need 570 new intelligence officers each year. After job training, intelligence officers are assigned to intelligence units, military operations sections, or command posts. With experience, they may become commanders of intelligence units or directors of information gathering sections.

LAWYERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military has its own system of laws and courts. Lawyers administer activities within the military judicial system. They also perform legal research, prosecute and defend court cases, and preside over military courts. They provide legal services for military personnel and represent the services in civil and international legal matters.

What They Do

Lawyers in the military perform some or all of the following duties:

- Give legal advice about government real estate, commercial contracts, patents, and trademarks
- Prepare pretrial advice for clients in court-martial cases
- Act as prosecuting attorney, defense attorney, or judge in court cases
- Prepare legal documents, such as wills and powers of attorney
- Interpret laws, directives, regulations, and court decisions
- Preside over court cases and make judgments based on the Uniform Code of Military Justice
- Help train new lawyers

Special Qualifications

A degree in law is required to enter this occupation. In addition, most specialties require a membership to the bar in either federal court or the highest court of a state.

Helpful Attributes

Helpful attributes include:

- Interest in working with and researching legal concepts
- Ability to write clearly and concisely
- Ability to speak effectively in public
- Sensitivity to the needs of others

Work Environment

Lawyers work in legal offices and courtrooms on land and aboard ship.

Training Provided

Job training consists of between 8 and 12 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Military trial procedures
- Application of the Uniform Code of Military Justice
- Methods of obtaining evidence
- Court-martial advocacy techniques

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian lawyers work in private practice and for law firms, government, corporations, and nonprofit groups. They perform duties similar to those performed by military lawyers. Civilian lawyers, however, usually specialize in a particular field. There are several fields of civilian law, such as divorce, trade, and antitrust that military lawyers do not practice.

Opportunities

The services have about 4,200 lawyers. On average, they need 450 new lawyers each year. With experience, lawyers may be appointed military judges. In time, lawyers may advance to senior management positions in the legal field.

LIFE SCIENTISTS

Army
Navy
Air Force

The military conducts studies of human and animal diseases to understand their causes and to find treatments. Harmful pests and bacteria are studied to find ways to protect people and food against illness or infection. Life scientists study the biology and chemistry of living organisms.

What They Do

Life scientists in the military perform some or all of the following duties:

- Study bacteria and parasites to determine how they invade and affect humans or animals
- Study the effects of drugs, chemicals, and gases on organisms
- Study ways of protecting humans through immunization from disease
- Direct blood banks and study blood chemistry
- Study the effects of aerospace flight, temperature, and movement on human physiology
- Study food storage and handling methods
- Study ways of keeping bases and ships free from pests
- Conduct experiments and write technical reports

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialities require a master's degree.

Helpful Attributes

Helpful fields of study include biochemistry, biology, microbiology, and pharmacology. Helpful attributes include:

- Interest in scientific work
- Ability to express ideas clearly and concisely
- Interest in mathematics, chemistry, and biology

Work Environment

Life scientists work in medical, clinical, and research laboratories. They may work outdoors while conducting field work on land or aboard ship.

Training Provided

No initial job training is provided to officers in this occupation. However, advanced courses are available in some specialties.

Civilian Counterparts

Civilian life scientists work for universities, government agencies, medical laboratories, blood banks, pharmaceutical firms, and chemical companies. They perform duties similar to those performed by military life scientists. Depending on their specialty, civilian life scientists may be called biochemists, biologists, entomologists, immunologists, medical technologists, pharmacologists, physiologists, or toxicologists.

Opportunities

The services have about 890 life scientists. On average, they need 80 new life scientists each year. Newly commissioned life scientists are normally assigned to a laboratory, where they conduct research under the direction of more experienced scientists. In time, life scientists may manage their own research projects and direct other officers. Eventually, they may become directors of research labs or hold other senior management positions in the health research field.

MARINE ENGINEERS

Navy
Coast Guard

Ships and submarines must be designed for speed, strength, stability, and safety. Improvements in ship equipment, hull design, and deck layout can improve operations. Marine engineers design ships, submarines, and other watercraft for military use. They also oversee the construction and repair of ships and marine equipment.

What They Do

Marine engineers in the military perform some or all of the following duties:

- Study new ways of designing and building ship hulls
- Develop and test shipboard combat and salvage equipment
- Oversee the construction, maintenance, and repair of ship hulls and equipment
- Manage research programs to solve naval engineering problems
- Oversee the installation, operation, and repair of marine equipment and systems
- Evaluate marine research data and prepare technical reports

Special Qualifications

A 4-year college degree in marine engineering is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in technical work
- Ability to plan and organize research projects
- Interest in ships and shipbuilding

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian marine engineers work in the shipbuilding industry. They also work for government agencies and ship machinery manufacturers. Civilian marine engineers perform duties similar to those performed in the military. They may also be called marine architects, marine equipment design engineers, marine equipment research engineers, marine surveyors, and port engineers.

Work Environment

Marine engineers do much of their work outdoors at shipyards while overseeing shipbuilding and repair activities. They work in offices while directing vessel design and development activities.

Opportunities

The services have about 580 marine engineers. On average, they need 70 new marine engineers each year. Newly commissioned marine engineers may be assigned to engineering or marine research and development laboratories. They may also be assigned to work in shipyards with vessel maintenance and repair units. With experience, marine engineers may advance to senior engineering management and command positions.

METEOROLOGISTS

Army
Navy
Air Force
Marine Corps

Meteorology is the study of the weather and weather forecasting. Military operations such as troop movements, airplane flights, missle launches, and ship movements rely on accurate weather information. Meteorologists study weather conditions and prepare current and long-range weather forecasts.

What They Do

Meteorologists in the military perform some or all of the following duties:

- Direct personnel who collect weather data
- Observe weather conditions from airplanes
- Interpret weather data received from satellites and weather balloons
- Prepare short-range and long-range weather forecasts
- Relay forecast updates and violent weather warnings to military and civilian authorities
- Train staff in data collection and interpretation

Physical Demands

Meteorology specialties involving air observation require applicants to pass a demanding flight physical exam.

Helpful Attributes

Helpful attributes include:

- Interest in scientific work
- Interest in collecting and analyzing data
- Interest in working with mathematical formulas
- Interest in planning and directing the work of others

Special Qualifications

A 4-year college degree, with course work in meteorology, is usually required to enter this occupation.

Training Provided

Job training consists of 6 to 15 weeks of classroom instruction. Course content typically includes:

- Identification of common weather patterns
- Methods of analyzing weather conditions
- Use of radar and satellite systems for weather data collection
- Use of computers for compiling, analyzing, and plotting weather data
- Techniques and procedures of forecasting

Work Environment

Meteorologists usually work in weather stations or operations centers where weather information can be collected, analyzed, and plotted using computers. Sometimes they work outdoors while making weather observations.

Civilian Counterparts

Civilian meteorologists work for government agencies, radio and television stations, and airlines. They perform duties similar to those performed by military meteorologists.

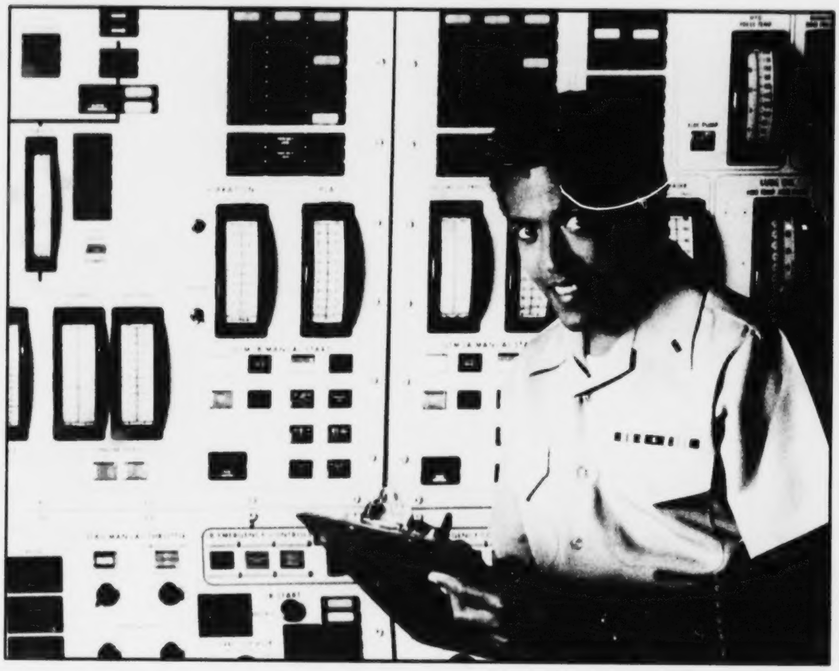
Opportunities

The services have about 1,550 meteorologists. On average, they need 100 new meteorologists each year. After job training, meteorologists are assigned to land-based or shipboard weather stations. With experience, they may advance to senior management and command positions.

NUCLEAR ENGINEERS

Army
Navy
Air Force
Marine Corps

The military has been a pioneer in the use of nuclear energy. The military uses nuclear energy for power plants, strategic weapons, and defense systems. Nuclear engineers direct research and development projects to improve military uses of nuclear energy. They also direct nuclear power plant operations.



What They Do

Nuclear engineers in the military perform some or all of the following duties:

- Direct projects to improve nuclear power plants in ships and submarines
- Direct research on the uses and effects of nuclear weapons
- Develop safety procedures for handling nuclear weapons
- Assist high-level officials in creating policies for developing and using nuclear technology
- Direct operations and maintenance of nuclear power plants

Special Qualifications

A 4-year college degree in physics, chemistry, or nuclear engineering is required to enter this occupation. Some specialties in this occupation require a master's degree.

Work Environment

Nuclear engineers work in offices, research laboratories, and power plant control centers, either on land or aboard nuclear-powered ships and submarines.

Helpful Attributes

Helpful attributes include:

- Interest in scientific and technical work
- Interest in planning and directing complex research projects
- Interest in working with mathematical formulas
- Interest in concepts and principles of engineering

Training Provided

No initial job training is provided to officers in this occupation. However, advanced training is available.

Civilian Counterparts

Civilian nuclear engineers work for firms that build and operate nuclear power plants and that develop and manufacture nuclear weapons. Many also work for public utilities, government agencies, and colleges and universities. Civilian nuclear engineers perform duties similar to those performed in the military.

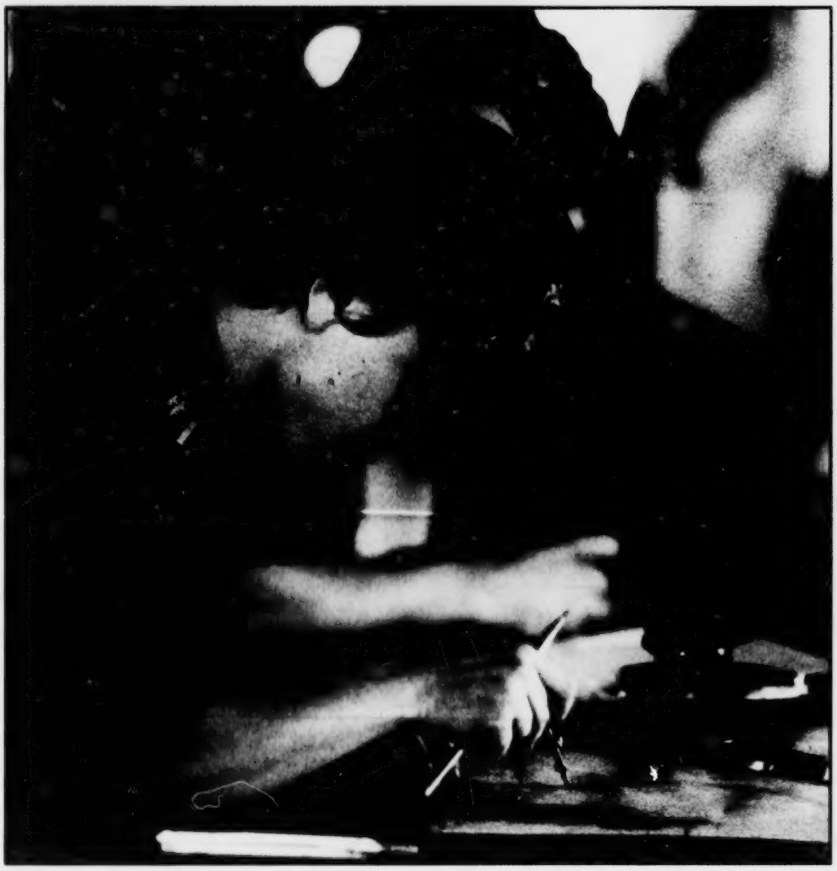
Opportunities

The services have about 410 nuclear engineers. On average, they need 50 new nuclear engineers each year. Newly commissioned nuclear engineers are usually assigned to nuclear research laboratories, nuclear power plants (on shore or aboard ships), or other defense facilities. With experience, they may advance to senior management or command positions.

OCEANOGRAPHERS

Navy
Coast Guard

The military needs navigational charts and maps to safely travel the oceans. Accurate oceanographic and weather forecasts are also needed to plan military operations. Oceanographers study ocean tides, currents, weather, and the physical features of the ocean floor.



What They Do

Oceanographers in the military perform some or all of the following duties:

- Direct personnel who collect oceanographic data
- Conduct research on the effects of water and atmosphere on military warning and weapon systems
- Direct the preparation of ocean, sea, and waterway charts, maps, and publications
- Oversee the preparation of oceanographic and weather forecasts
- Collect information on ice conditions in ocean shipping lanes
- Collect information about ocean currents for support of military operational planning
- Advise commanders about ocean and sea conditions to assist in search and rescue missions

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include oceanography, geology, marine engineering, and hydrology. Helpful attributes include:

- Preference for doing scientific work
- Interest in sailing and being at sea
- Interest in conducting research or analytical studies

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian oceanographers usually work for colleges and universities, where they are primarily involved in research. Some work for federal government agencies, such as the National Oceanic and Atmospheric Administration (NOAA) and for state and local governments that border on the ocean. Civilian oceanographers perform duties similar to those performed in the military.

Work Environment

Oceanographers work outdoors in all climates while collecting oceanographic information. They work in offices while preparing oceanographic publications and charts.

Opportunities

The services have about 220 oceanographers. On average, they need 20 new oceanographers each year. Newly commissioned oceanographers work in their specialty areas, usually with a senior officer. With experience, they work more independently. In time, they may advance to senior management or command positions.

OPERATIONS ANALYSTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Some parts of military operations are so large that planning for them must be done by computer. Setting up supply lines, for example, requires knowing which supplies are required, how much and when they are needed, and where they should be shipped. Operations analysts study large and complex problems and solve them using operations research, systems analysis, and computer modeling techniques.

What They Do

Operations analysts in the military perform some or all of the following duties:

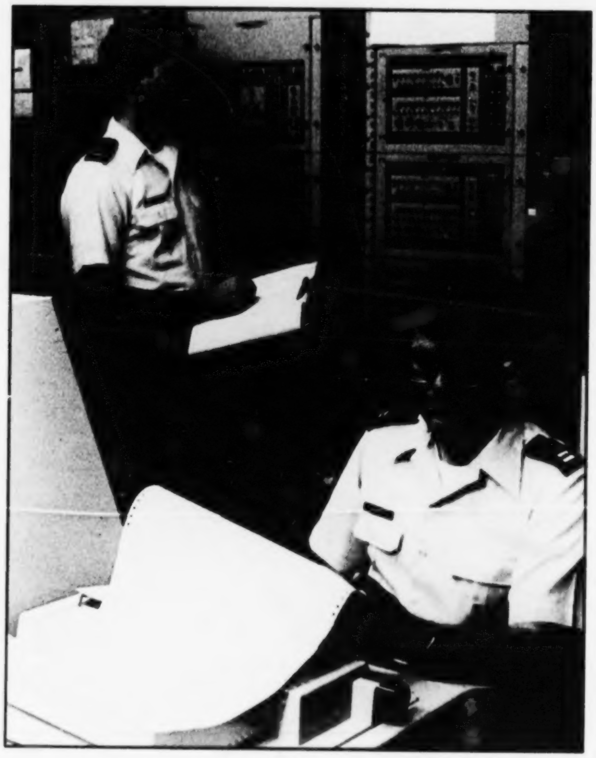
- Develop research designs for analyzing and evaluating military operations and processes
- Solve supply, equipment, and other logistics problems using mathematical models, simulation, and analytical techniques
- Design new or improved operational and management procedures based on results of studies
- Develop and analyze war games to find ways to improve the nation's defenses
- Construct computer mathematical models to analyze research data on foreign military capabilities
- Prepare research reports
- Use computers to design or "break" cryptographic codes

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Work Environment

Operations analysts work in offices on military bases or aboard ship.



Helpful Attributes

Helpful fields of study include engineering, statistics, mathematics, computer science, operations research, economics, and business or public administration. Helpful attributes include:

- Interest in planning and conducting analytical studies
- Preference for working with numbers and statistics
- Interest in solving problems
- Interest in work requiring accuracy and attention to detail

Training Provided

No initial job training is provided to officers in this occupation. However, advanced training is available in some specialties.

Civilian Counterparts

Civilian operations analysts may work in management consulting firms, manufacturing plants, government agencies, and colleges or universities. Civilian operations analysts perform duties similar to those performed in the military. They may also be called statisticians, mathematicians, or operations researchers.

Opportunities

The services have about 600 operations analysts. On average, they need 50 new operations analysts each year. Newly commissioned operations analysts may be assigned to engineering, operational research, or management evaluation units. They usually work with other analysts on large projects. With experience, they may advance to senior management or command positions.

PHYSICISTS

Army
Navy
Air Force
Coast Guard

The goal of military research is to improve the technologies used for national defense. Through physics research, new materials for building ships, aircraft, and weapons are discovered. Physicists direct research and development projects on physical matter and energy.

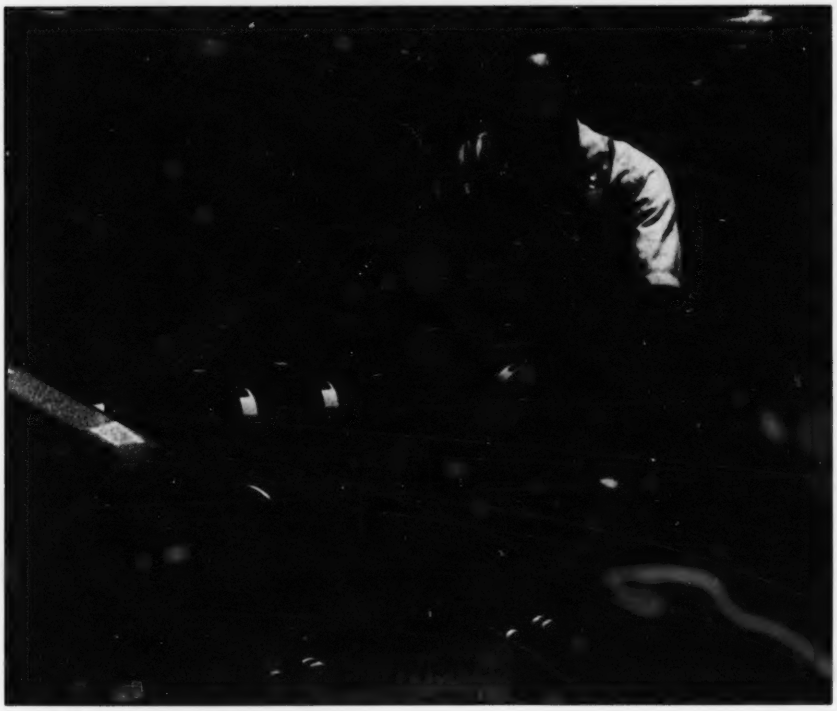
What They Do

Physicists in the military perform some or all of the following duties:

- Plan and conduct experiments in aerodynamics, optics, geophysics, biophysics, and astrophysics
- Conduct research to improve methods of radiation detection and protection
- Analyze strength, flexibility, weight, and other properties of metals, plastics, and other materials
- Conduct studies regarding the use of nuclear-powered engines
- Write technical reports on experiments performed
- Assist in research and development projects to improve radio and other communications equipment
- Oversee research projects under contract to universities and industrial firms
- Manage laboratories or field staff to conduct experiments

Special Qualifications

A 4-year college degree in physics, chemistry, or nuclear engineering is required to enter this occupation. Some specialties require a master's degree.



Helpful Attributes

Helpful attributes include:

- Interest in scientific and technical work
- Interest in mathematics and physics
- Interest in conducting research and analytical studies

Work Environment

Physicists usually work in research and development laboratories.

Training Provided

No initial job training is provided to officers in this occupation.

Civilian Counterparts

Civilian physicists work primarily in research and development for private industry, colleges and universities, and government agencies. They perform duties similar to those performed by military physicists. Civilian physicists usually specialize in one area of physics, such as nuclear, astronomical, health, or medical physics.

Opportunities

The services have about 560 physicists. On average, they need 50 new physicists each year. Newly commissioned physicists work as part of research teams. With experience, they may lead research projects of their own. After demonstrating leadership abilities, they may advance to senior management positions in a variety of scientific fields.

321

SPACE OPERATIONS OFFICERS

Navy
Air Force

Orbiting satellites and other space vehicles are used for national security, communications, weather forecasting, and space exploration. Space operations officers manage space flight planning, training, mission control, and other activities involved in launching and recovering spacecraft. They may also command space flights or serve as crew members.

What They Do

Space operations officers in the military perform some or all of the following duties:

- Manage activities of the flight control facility, including mission planning and training
- Manage operation of guidance, navigation, and propulsion systems for ground and space vehicles
- Develop space flight simulation exercises to train astronauts
- Plan space stations
- Direct space center launch and recovery activities
- Command and pilot space shuttles
- Perform in-orbit tasks and experiments aboard spacecraft
- Monitor foreign space flights and missile launches

Special Qualifications

A 4-year college degree in science or engineering is required to enter the space operations field. A bachelor of science degree in engineering, mathematics, physical science, or life science is required to qualify as an astronaut.

Work Environment

Launch and mission control space operations officers work in offices. Astronauts are required at times to work in a zero gravity environment in training as well as in space flight.

Helpful Attributes

Helpful attributes include:

- Interest in scientific research
- Decisiveness
- Ability to work well as a member of a team
- Interest in space travel and desire to explore new frontiers

Training Provided

Job training for mission control officers consists of about 1-year of classroom instruction and practical experience. Course content typically includes:

- Evaluation of space transport systems
- Development of space mission plans
- Methods for conducting space flight training programs
- Development of space flight simulation exercises

Further training occurs on the job and through academic courses. Astronauts must complete the National Aeronautics and Space Administration (NASA) astronaut candidate training school. They also receive 1 year of practical training in space transport systems.

Physical Demands

Astronaut testing and training are physically very demanding. Officers must be in top physical shape to qualify for the astronaut shuttle program.

Civilian Counterparts

Most civilian space operations officers work for NASA in launch and mission control. They perform duties similar to those performed by military space operations officers. Some civilian space operations officers work for private corporations and firms that operate space satellites.

Opportunities

The services have about 1,100 space operations officers. On average, they need 110 new space operations officers each year. After job training, new space operations officers are assigned to space operations, launch and mission control centers, or research facilities. With experience and special training, they have the opportunity to work in various areas such as astronautics or space flight control. Eventually, they may manage a space and ballistic missile warning facility, a satellite command center, a space launch system, a space systems analysis facility, or a manned space flight. Although Army and Marine Corps officers may become astronauts and hold other positions in space operations, at present only the Navy and Air Force have defined career programs in this area.

SURVEYING AND MAPPING MANAGERS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military conducts land surveys to construct roads, airfields, and bridges. Land measurements are also needed to make maps and charts of unknown areas. Surveying and mapping managers direct surveying and mapmaking operations.

What They Do

Surveying and mapping managers in the military perform some or all of the following duties:

- Plan surveys and aerial photography missions
- Direct the activities of survey teams
- Direct the calculation of latitude and longitude, slope, elevation, and other features of the land
- Direct mapmaking operations
- Advise commanders about distance and location during military operations

Special Qualifications

A 4-year college degree in photographic science, cartography, photogrammetry, or a related field is required to enter this occupation.

Helpful Attributes

Helpful attributes include:

- Interest in planning and directing the work of others
- Ability to visualize land features from maps and charts
- Interest in construction and engineering

Work Environment

Surveying and mapping managers usually work in engineering offices. They may work outdoors when assisting survey teams or during military operations.

Training Provided

Job training consists of between 10 and 13 weeks of classroom instruction. Course content typically includes:

- Mapmaking and charting techniques
- Survey methods
- Management of mapmaking programs

Civilian Counterparts

Civilian surveying and mapping managers usually work for engineering firms, where they manage construction project planning. They perform duties similar to those performed by military surveying and mapping managers. They may also be called land surveyors, cartographic supervisors, or photogrammetric engineers.

Opportunities

The services have about 740 surveying and mapping managers. On average, they need 60 new managers each year. After job training, surveying and mapping managers are usually assigned to engineering, surveying, or intelligence units or to mapmaking laboratories. Eventually, they may advance to senior management or command positions in the engineering field.

Service Occupations

- Law Enforcement Directors
- Security Officers
- Special Agents

LAW ENFORCEMENT DIRECTORS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military services have their own police forces to protect lives and property on military bases and to patrol our coastal waters. Law enforcement directors command military police units that enforce laws and investigate crimes.

What They Do

Law enforcement directors in the military perform some or all of the following duties:

- Direct the enforcement of military law
- Develop policies and programs to prevent crime and reduce traffic accidents
- Direct programs to patrol coastal waters and harbors
- Assign military police and detectives to patrols and investigations
- Manage investigations of crimes
- Supervise the arrest, custody, transfer, and release of offenders
- Review arrest reports, charges, and evidence to make sure they are complete and accurate
- Manage military correctional facilities

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties require further education or prior experience in law enforcement.

Helpful Attributes

Helpful fields of study include business administration, corrections, psychology, sociology, and public administration. Helpful attributes include:

- Interest in law enforcement and crime prevention
- Interest in planning and directing the work of others
- Interest in working closely with others

Work Environment

Law enforcement directors usually work in offices while planning and directing law enforcement activities. They may work outdoors while directing investigations, observing prisoners, and supervising the arrest of offenders.

Training Provided

Job training consists of between 7 and 28 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Law enforcement administration
- Harbor security and safety
- Military law
- Security procedures
- Management of correctional facilities

Civilian Counterparts

Civilian law enforcement directors work for federal, state, and local police forces and private security companies. Some also operate their own security firms or become private detectives. Civilian law enforcement directors perform duties similar to those performed in the military. They may also be called police chiefs, chief inspectors, prison wardens, or chief deputy sheriffs.

Opportunities

The services have about 2,700 law enforcement directors. On average, they need 180 new law enforcement directors each year. After job training, law enforcement directors are assigned to command police, security, or investigative units. Depending on ability and experience, law enforcement directors may be assigned to direct one or more large law enforcement units.

SECURITY OFFICERS

Army
Navy
Air Force
Marine Corps
Coast Guard

Military bases contain weapons, supplies, equipment, and information vital to the national defense. Careful measures must be taken to guard against theft, destruction, and unauthorized access. Security officers plan and direct programs to protect military property, communications, and classified information.

What They Do

Security officers in the military perform some or all of the following duties:

- Plan for the security of military bases and office buildings
- Direct security procedures, such as issuing passes, fingerprinting, recordkeeping, and patrolling
- Direct training programs on how to maintain tight security
- Manage programs to classify and protect sensitive information
- Develop programs to secure communications systems from attack or unofficial use
- Inspect security systems
- Work with investigators to solve possible security problems

Special Qualifications

A 4-year college degree is normally required to enter this occupation.

Helpful Attributes

Helpful fields of study include law enforcement and business or public administration. Helpful attributes include:

- Interest in activities involving careful planning
- Ability to express ideas clearly and concisely

Work Environment

Security officers usually work in offices. They may work outdoors when inspecting facilities and security systems or training security personnel who protect the base.

Training Provided

Training consists of between 7 and 15 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Physical security planning
- Management of security problems
- Communications security
- Crime prevention

Civilian Counterparts

Civilian security officers work for industrial firms, government agencies, hotels, hospitals, colleges, and universities. They also work for private security management and consulting firms. Civilian security officers perform duties similar to those performed in the military. They may also be called security managers or plant protection superintendents.

Opportunities

The services have about 1,400 security officers. On average, the services need 100 new security officers each year. After job training, security officers help commanders plan security programs and direct security activities. After demonstrating leadership qualities, security officers may advance to senior management or command positions.

SPECIAL AGENTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The services have their own internal security forces responsible for protecting military personnel and property against criminal or terrorist activities. Special agents manage the military's internal security forces. They plan and direct investigations to solve crimes and to discover any threats to military security.

What They Do

Special agents in the military perform some or all of the following duties:

- Plan investigations of suspected treason, sabotage, espionage, and other security violations
- Perform counterterrorism and counterintelligence investigations with other law enforcement agencies
- Assign detectives to conduct homicide, arson, burglary and other criminal investigations
- Direct the preparation of investigation reports and special studies
- Work with civilian and military agencies to arrange protection for U.S. and foreign officials
- Direct the collection, evaluation, and storage of evidence
- Help in ballistics, forgery, fingerprinting, and polygraph (lie detector) examinations

Physical Demands

Excellent vision, normal hearing, and clear speech are required to enter some specialties in this occupation.

Special Qualifications

Experience or education in law enforcement is usually required to enter this occupation. Most specialties also require a 4-year college degree.

Helpful Attributes

Helpful fields of study include law enforcement, criminology, and business or public administration. Helpful attributes include:

- Interest in planning and organizing activities
- Ability to motivate and lead others
- Interest in law enforcement and crime prevention

Work Environment

Special agents in the military work mainly in offices while directing investigations. They may work outdoors while assisting detectives or conducting security studies.

Training Provided

Job training consists of between 7 and 12 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Investigation procedures and reporting
- Collection and evaluation of evidence
- Counterintelligence and counterterrorism operations
- Techniques for interviewing witnesses and questioning suspects
- Criminal photography and fingerprinting
- Polygraph examination

Further training occurs in advanced courses.

Civilian Counterparts

Civilian special agents may work in federal, state, and local intelligence and law enforcement agencies. They perform duties similar to those performed in the military. They may, however, specialize in areas such as forensics, ballistics, forgery, fingerprinting, or polygraph examination.

Opportunities

The services have about 1,300 special agents. On average, they need 70 new special agents each year. After job training, special agents work as part of investigating teams gathering evidence and interviewing people. In time, they may lead investigations. Eventually, they may become commanders of law enforcement or security departments.

Transportation Occupations

- Airplane Navigators
- Airplane Pilots
- Helicopter Pilots
- Ship and Submarine Officers
- Ship Engineers

COAST GUARD

AIRPLANE NAVIGATORS

Navy
Air Force
Marine Corps
Coast Guard

Pilots rely on the precision and skill of the navigator to keep the aircraft on course. Airplane navigators use radar, radio and other navigation equipment to determine position, direction of travel, intended course, and other information about their flights.

What They Do

Airplane navigators in the military perform some or all of the following duties:

- Direct aircraft course using radar, sight, and other navigation methods
- Operate radios and other communication equipment to send and receive messages
- Locate other aircraft using radar equipment
- Operate bombardier systems during bombing runs
- Inspect and test navigation and weapons systems before flights
- Guide tankers and other airplanes during in-flight refueling operations
- Provide pilots with instrument readings, fuel usage, and other flight information

Physical Demands

Airplane navigators, like pilots, have a physically and mentally demanding job. Navigators are required to have excellent vision and must be in top physical shape.

Special Qualifications

A 4-year college degree is required to enter this occupation. Although there are women airplane navigators, some specialties are only open to men.

Work Environment

Airplane navigators perform their work in aircraft. They may be stationed at airbases or aboard aircraft carriers anywhere around the world.

Training Provided

Job training consists of between 6 and 12 months of classroom instruction. Course content typically includes:

- Principles and methods of navigation
- Operation of communication, weapon, and radar systems
- Inspection and testing of navigation equipment and systems
- Combat and bombing navigation procedures and tactics

Practical experience in navigation is gained through training in aircraft simulators and through about 100 hours of actual flying time. Further training occurs on the job and through advanced courses.

Helpful Attributes

Helpful fields of study include cartography, geography, and surveying. Helpful attributes include:

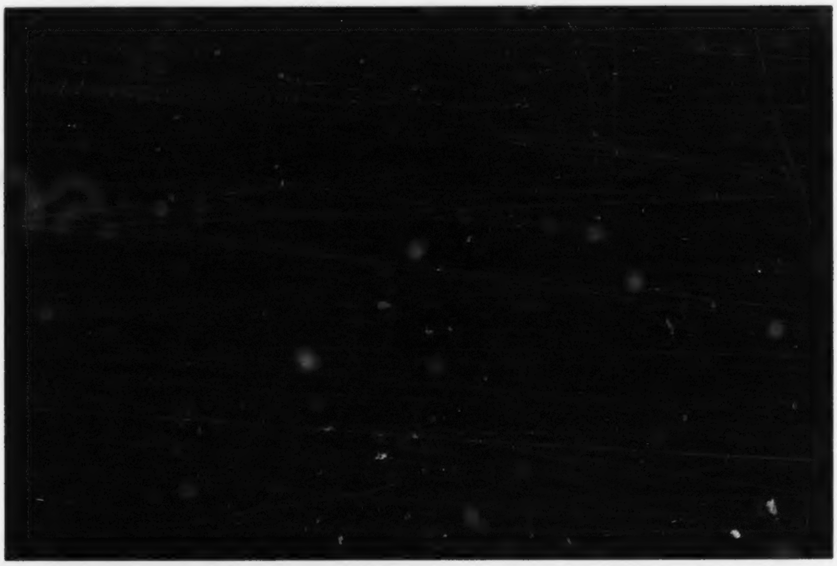
- Ability to read maps and charts
- Interest in work requiring accuracy and attention to detail
- Ability to respond quickly to emergencies
- Strong desire to fly

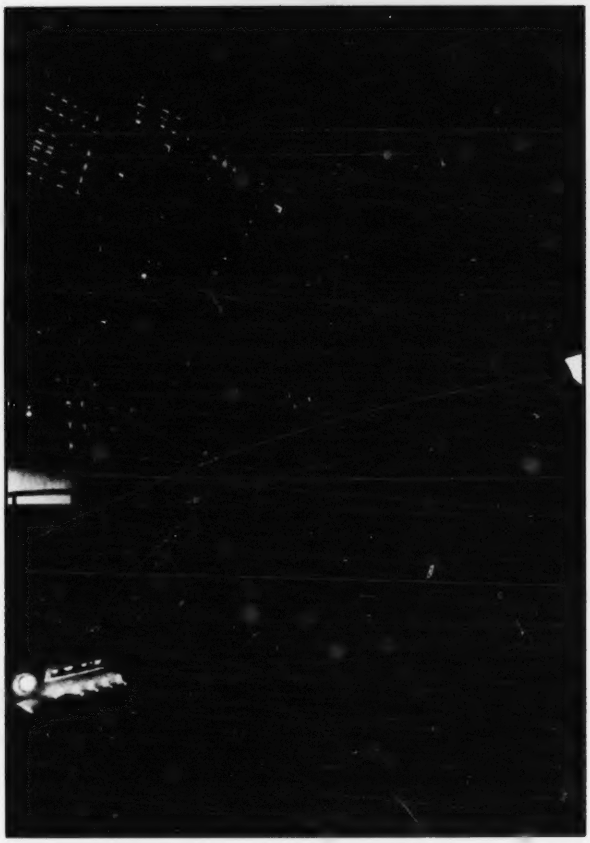
Civilian Counterparts

Civilian airplane navigators work for passenger and cargo airlines. They perform many of the same duties as performed by military navigators.

Opportunities

The services have about 10,300 airplane navigators. On average, they need 530 new navigators each year. After job training, airplane navigators are assigned to flying sections for duty. They work as officer crewmembers on bombers, tankers, fighters, or other airplanes. In time, they may advance to senior management or command positions.





AIRPLANE PILOTS

Army
Navy
Air Force
Marine Corps
Coast Guard

The military operates one of the largest fleets of specialized airplanes in the world. Supersonic fighters and bombers fly combat missions. Large transports carry troops and equipment. Intelligence gathering airplanes take photographs from high altitudes. Military airplane pilots fly the thousands of jet and propeller airplanes operated by the services.

What They Do

Airplane pilots in the military perform some or all of the following duties:

- Check weather reports to learn about flying conditions
- Develop flight plans showing air routes and schedules
- Contact air traffic controllers to obtain take-off and landing instructions
- Fly airplanes by controlling engines, rudders, elevators, and other controls
- Monitor gauges and dials located on cockpit control panels
- Perform combat maneuvers, take photographs, transport equipment, and patrol areas to carry out flight missions

Physical Demands

Airplane pilots must pass the most demanding physical test of any job in the military. To be accepted for pilot training, applicants must have 20/20 vision and be in top physical condition. They must have very good eye-hand coordination and have extremely quick reaction times to maneuver at high speeds.

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Although the military has many women pilots, specialties involving duty in combat airplanes are open only to men. (Because all Marine Corps planes are combat planes, there are no women pilots in the Marines.)

Work Environment

Airplane pilots may be stationed at airbases or aboard aircraft carriers anywhere around the world. They fly in all types of weather conditions. Military pilots take off and land on airport runways and aircraft carrier landing decks.

Training Provided

Pilot training is a 2-year program covering 1 year each in initial and advanced training. Initial training includes time spent in flight simulators, classroom training, officer training, and basic flight training. Course content typically includes:

- Aircraft aerodynamics
- Jet and propeller engine operation
- Operation of aircraft navigation systems
- Foul weather flying
- FAA (Federal Aviation Administration) regulations

This is among the most challenging training given by the services; not everyone who attempts this training can meet the strict requirements for completion. Advanced training begins when pilots successfully complete initial training and are awarded their "wings." Advanced training consists of instruction in flying a particular type of aircraft.

Helpful Attributes

Helpful fields of study include physics and aerospace, electrical, or mechanical engineering. Helpful attributes include:

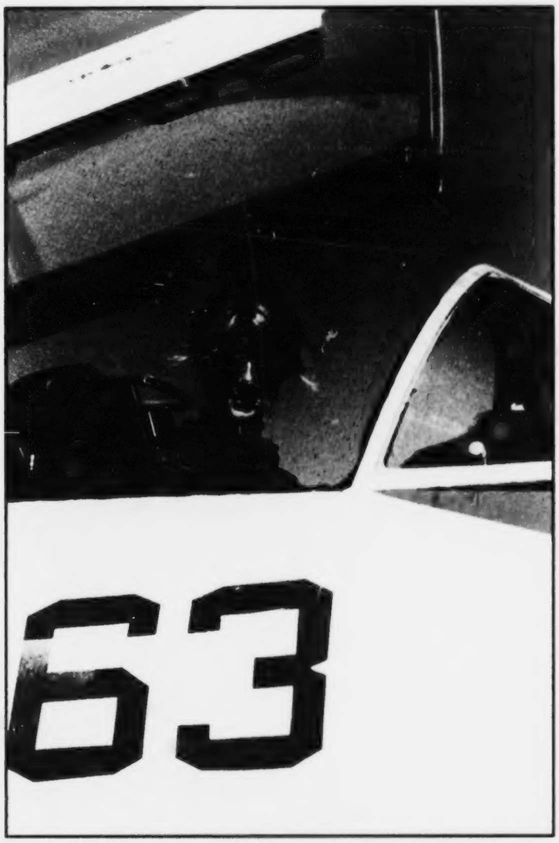
- Strong desire to fly airplanes
- Self-confidence and ability to remain calm in stressful situations
- Determination to complete a very demanding training program

Civilian Counterparts

Civilian airplane pilots who work for passenger airlines and air cargo businesses are called commercial pilots. Other civilian pilots work as flight instructors at local airports, as cropdusters, or as pilots transporting business executives in company planes.

Opportunities

The services have about 28,000 airplane pilots. On average, they need 1,300 new pilots each year. After initial and advanced training, most pilots are assigned to flying squadrons to fly the types of aircraft for which they were trained. In time, pilots train for different aircraft and missions. Eventually, they may advance to senior management or command positions.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HELICOPTER PILOTS

Army
Navy
Air Force
Marine Corps
Coast Guard

Helicopters can take off from and land on small areas. They can also hover in one spot in the air. The military uses these versatile aircraft to transport troops and cargo, perform search and rescue missions, and provide close combat support for ground troops. Helicopter pilots fly the many helicopters operated by the services.

What They Do

Helicopter pilots in the military perform some or all of the following duties:

- Prepare flight plans showing air routes and schedules
- Fly helicopters by controlling engines, flight controls and other systems
- Monitor gauges and dials located on cockpit control panels
- Perform combat maneuvers, spot and observe enemy positions, transport troops and equipment, and evacuate wounded troops
- Check weather reports to learn about flying conditions

Physical Demands

Helicopter pilots must pass the most demanding physical tests of any job in the military. To be accepted for pilot training, applicants must have excellent vision and be in top physical condition. They must have very good eye-hand-foot coordination and have quick reflexes.

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Some specialties in the Army do not require a 4-year college degree. Although there are women helicopter pilots, some specialties are open only to men. (The Marine Corps has no women helicopter pilots because all specialties involve duty in combat aircraft.)

Helpful Attributes

Helpful fields of study include physics and aerospace, electrical, or mechanical engineering. Helpful attributes include:

- Strong desire to fly aircraft
- Determination to complete a very demanding training program
- Self-confidence and ability to remain calm under stress

Training Provided

Job training consists of between 1 and 2 years of academic and flight instruction. Flight training consists of at least 80 hours of flying time. Training length varies depending on specialty. Course content typically includes:

- Principles of helicopter operation
- Principles of helicopter inspection
- Flying techniques and emergency procedures
- Combat skills and tactics

Work Environment

Helicopter pilots are stationed at military bases or aboard aircraft carriers around the world. They fly in all types of weather conditions. Helicopter pilots take off and land from airports, forward landing areas, and ship landing decks.

Civilian Counterparts

Civilian helicopter pilots work for police forces, local commuter services, and private businesses. They also work as crop dusters, fire fighters, traffic spotters, and helicopter flight instructors.

Opportunities

The military has about 10,000 helicopter pilots. On average, the services need 530 new pilots each year. After receiving their pilot rating, helicopter pilots are assigned to flying units. With experience, they may become group leaders or flight instructors. Helicopter pilots may advance to senior management and command positions.

SHIP AND SUBMARINE OFFICERS

Army
Navy
Coast Guard

Ships and submarines are organized by departments, such as engineering, communications, weapons, and supply. Ship and submarine officers work as a team to manage the various departments aboard their vessels.

What They Do

Ship and submarine officers in the military perform some or all of the following duties:

- Command vessels of all sizes at sea or in coastal waters
- Plan and manage the operating departments, under the captain's direction
- Plan and manage training exercises, such as target practice, aircraft operations, damage control drills, and searches for enemy submarines
- Evaluate subordinate personnel (officers and enlisted) and recommend awards and promotions
- Direct search and rescue missions

Physical Demands

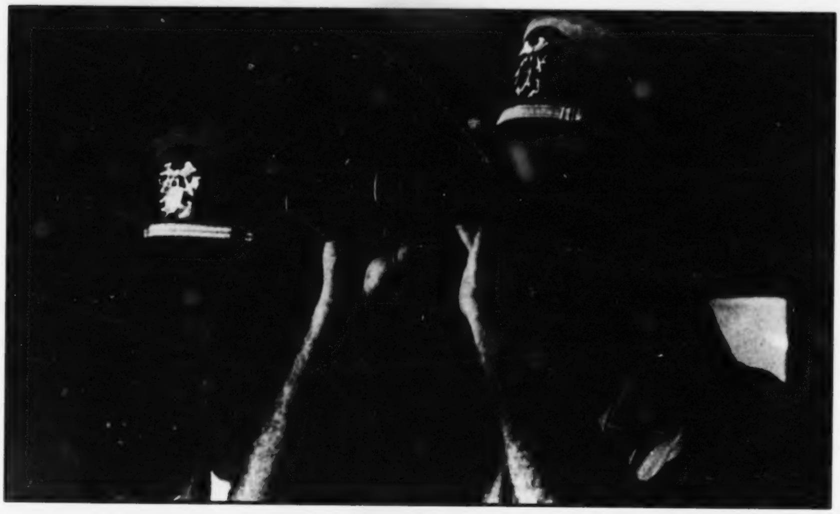
Good vision and normal color vision are required for reading color-coded charts and maps and, for submarine duty, for adjusting to red-light vision prior to surfacing at night.

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Although there are women ship officers, some assignments, such as submarine duty, are open only to men.

Work Environment

Ship and submarine officers work aboard their vessels. Engineering officers are subjected to hot, humid, and noisy environments. Submarine officers work in confined spaces for extended periods.



Training Provided

Job training consists of classroom instruction and practical experience in one of the following departments: air, weapons, operations, communications, engineering, deck, administration, or supply. Training length varies depending on specialty. Course content typically includes:

- Management and organization of ship or submarine operations
- Responsibilities of the individual departments
- Piloting and navigation of ships
- Interpretation of maritime laws and policies

Further training occurs on the job and through advanced courses.

Civilian Counterparts

Civilian ship officers work for private passenger, freight, and tanker shipping lines. With the exception of duties that are combat related, their duties are similar to those performed by military ship officers.

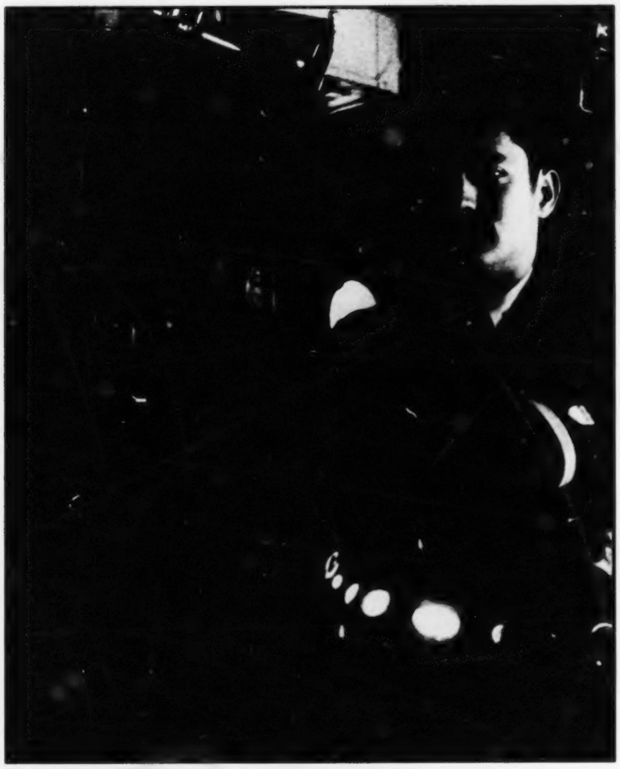
Helpful Attributes

Helpful fields of study include engineering, oceanography, mathematics, and computer science. Helpful attributes include:

- Ability to organize and direct the work of others
- Interest in sailing and being at sea
- Ability to motivate and lead others

Opportunities

The services have about 17,600 ship and submarine officers. On average, they need 1,950 new ship and submarine officers each year. After job training, officers are assigned to management positions in one of the ship's departments working under more experienced officers. With experience and demonstrated ability to lead, they assume greater responsibility. Depending on their specialty, ship and submarine officers gain experience in more than one department. Also, they are regularly reassigned to different ships or submarines where they meet and work with new people. Between sea tours they work and attend training at shore bases. Eventually, ship and submarine officers may be selected to command a vessel.



SHIP ENGINEERS

Army
Navy
Coast Guard

Engines are a ship's main source of power for propulsion, heat, and electricity. Ship engines are massive; some are as large as the powerplants that generate electricity for small cities. Ship engineers direct the engineering departments aboard ships and submarines. They are responsible for engine operations, maintenance, and repair. They are also responsible for shipboard heating and power generation.

What They Do

Ship engineers in the military perform some or all of the following duties:

- Direct engine room operations in nuclear or diesel-powered vessels
- Direct crews that inspect and maintain the electrical generators that supply power for lights, weapons, and equipment
- Direct crews that inspect and maintain the heating plants and air conditioning systems
- Direct crews that inspect and maintain ship transmission and propulsion systems
- Direct engine room repairs

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Nuclear specialties require a 4-year college degree in nuclear engineering.

Helpful Attributes

Helpful fields of study include civil, mechanical, and electrical engineering. Helpful attributes include:

- Interest in planning and directing the work of others
- Interest in engines and machines

Work Environment

Ship engineers work in engine rooms, where the noise levels and temperatures may be high.

Training Provided

Job training consists of between 3 and 12 months of instruction. Training length varies depending on specialty; the time required for nuclear specialties is the longest. Course content typically includes:

- Inspection and maintenance of marine engines, electrical systems, and fuel systems
- Operation and maintenance of steam plants and related machinery

Further training occurs on the job and through advanced courses. Nuclear specialties involve extensive training in reactor operations.

Civilian Counterparts

Civilian ship engineers work for shipping lines, transport companies, and some government agencies. They perform duties similar to those performed by military ship engineers. Civilian ship engineers may also be called engineers or marine engineers.

Opportunities

The services have about 3,200 ship engineers. On average, they need 230 new ship engineers each year. After job training, ship engineers work as assistant engineers under the direction of a chief engineer. With experience, they may advance to become chief engineer in charge of an engineering department. Eventually, they may advance to senior management and command positions.

Combat Specialty Occupations

- Artillery Officers
- Infantry Officers
- Missile System Officers
- Special Operations Officers
- Tank Officers

ARTILLERY OFFICERS

Army
Navy
Marine Corps
Coast Guard

The military uses artillery to support infantry and tank units in combat and to protect land and sea forces from air attack. Artillery officers direct artillery crew members as they position, maintain, and fire guns, cannons, howitzers, and rockets at enemy positions and aircraft. They normally specialize by type of artillery.

What They Do

Artillery officers in the military perform some or all of the following duties:

- Direct training activities of artillery and gun crew members
- Direct fire control operations and firing procedures
- Direct naval gunnery operations
- Select location of artillery and coordinate their use with infantry and tank units
- Direct air defense missile system operations
- Direct maintenance of artillery fire control equipment

Physical Demands

Physical requirements vary depending upon the type of artillery unit to which the officer is assigned. In most instances, artillery officers must meet very demanding physical requirements. They must be able to perform for long periods of time without rest and to work under stress.

Special Qualifications

A 4-year college degree is normally required to enter this occupation. Although there are women artillery officers, some specialties in this occupation are open only to men.

Helpful Attributes

Helpful fields of study include engineering, physics, and chemistry. Helpful attributes include:

- Ability to motivate and lead others
- Decisiveness
- Willingness to accept a challenge and face danger

Training Provided

Job training consists of between 3 and 19 weeks of classroom instruction and field training under simulated combat conditions. Training length varies depending on specialty. Course content typically includes:

- Artillery tactics
- Ammunition handling procedures
- Fire direction control procedures
- Air defense artillery duties

Further training occurs on the job and through advanced courses.

Work Environment

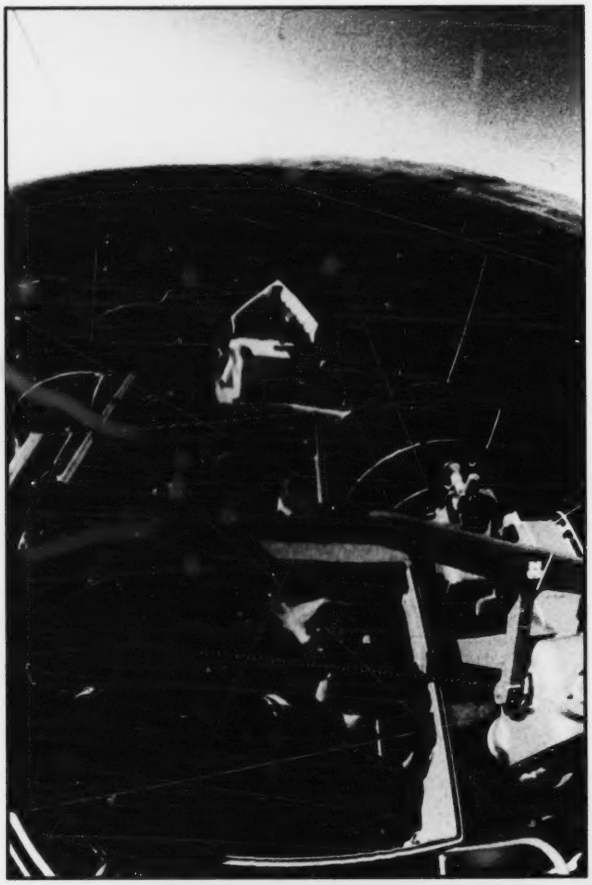
Artillery officers live and work under the same conditions as the personnel they lead. Some artillery officers spend a lot of time in field training exercises, where they work, eat, and sleep outdoors and in tents. Others work and live aboard ships.

Civilian Counterparts

Although the job of artillery officer has no equivalent in civilian life, the leadership and administrative experiences it provides are similar to those used in many civilian management occupations.

Opportunities

The services have about 15,320 artillery officers. On average, they need 1,500 new artillery officers each year. After training, new artillery officers usually assist commanders in directing artillery units. After demonstrating leadership ability, they may advance to command positions.



INFANTRY OFFICERS

Army
Marine Corps

In peacetime, the infantry stays ready to defend the country anywhere in the world. In combat, the infantry is deployed to capture or destroy enemy forces on the ground and to repel enemy invasions. Infantry officers direct, train, and lead infantry units.

What They Do

Infantry officers in the military perform some or all of the following duties:

- Gather and evaluate intelligence on enemy strength and positions
- Develop offensive and defensive battle plans
- Coordinate plans with armor, artillery, and air support units
- Direct construction of bunkers, fortifications, and obstacles to support and camouflage infantry positions
- Direct the use of infantry weapons and equipment, such as machine guns, mortars, rocket launchers, and armored personnel carriers
- Develop and supervise infantry unit training
- Direct administrative activities

Physical Demands

Infantry officers must meet the same demanding physical requirements as the infantrymen they command. They must be in excellent physical condition to perform strenuous activities over long periods of time, sometimes without sleep or rest.

Special Qualifications

A 4-year college degree is normally required to enter this occupation. This occupation is not open to women.

Work Environment

Because infantry officers must be prepared to lead their troops anywhere in the world that the infantry is needed, they work and train in all climates and weather conditions. During training exercises, as in real combat situations, infantry officers work, eat, and sleep outdoors and in tents. When not in the field, infantry officers perform administrative and management duties in offices.

Training Provided

Job training consists of between 8 and 14 weeks of classroom instruction and field training under simulated combat conditions. Training length varies depending on specialty. Course content typically includes:

- Infantry leadership roles
- Infantry squad and platoon tactics
- Modern offensive and defensive combat techniques

Helpful Attributes

Helpful fields of study include engineering, history, physical education, and business or public administration. Helpful attributes include:

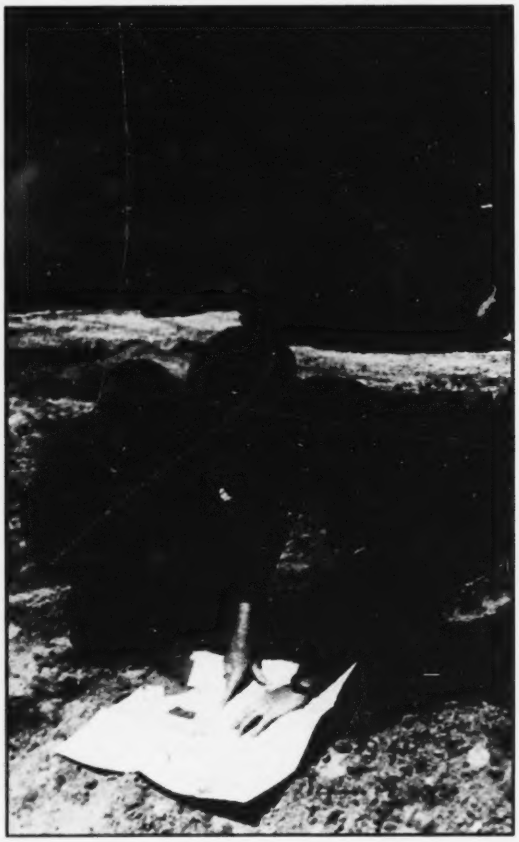
- Ability to motivate and lead others
- Willingness to accept a challenge and face danger
- Interest in land battle history and strategy

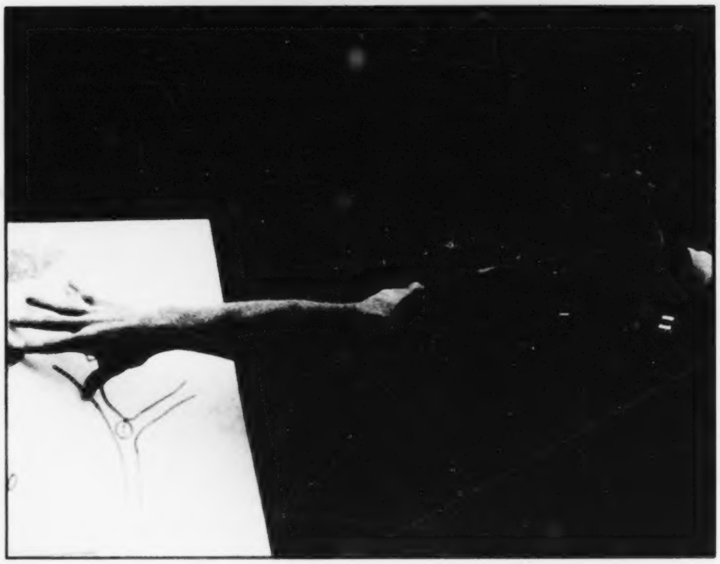
Civilian Counterparts

Although the job of infantry officer has no equivalent in civilian life, the leadership and administrative skills it provides are similar to those used in many civilian managerial occupations.

Opportunities

The services have about 14,800 infantry officers. On average, they need 1,250 new infantry officers each year. After job training, infantry officers are assigned to infantry units as platoon leaders. They direct training and tactical exercises for wargames. Advancement in the infantry is based on ability to lead. Infantry officers with proven ability to lead may assume command positions.





MISSILE SYSTEM OFFICERS

Army
Navy
Air Force

Ballistic missiles are powerful weapons that travel thousands of miles to their targets. They are fired from underground silos, submarines, and land-based launchers. Missile system officers direct missile crews as they target, launch, test, and maintain ballistic missiles.

What They Do

Missile system officers in the military perform some or all of the following duties:

- Stand watch as members of missile launch crews
- Direct testing and inspection of missile systems
- Direct missile maintenance operations
- Direct early-warning launch training exercises
- Direct security operations at missile sites
- Direct the storage and handling of nuclear warheads
- Direct operation of fail-safe and code verification systems

Special Qualifications

A 4-year college degree is normally required to enter this occupation. For some specialties, a master's degree in management is preferred.

Helpful Attributes

Helpful fields of study include engineering, physics, computer science, and business or public administration. Helpful attributes include:

- Ability to motivate and lead others
- Ability to remain calm in stressful situations
- Ability to learn and precisely follow complex procedures

Work Environment

Missile system officers work in underground launch command centers, in submarines, and in ground-level missile sites.

Training Provided

Job training consists of between 12 and 19 weeks of classroom instruction and training on missile system simulations. Training length varies depending on specialty. Course content typically includes:

- Missile targeting
- Security and code authentication
- Launch operations
- Maintenance programs

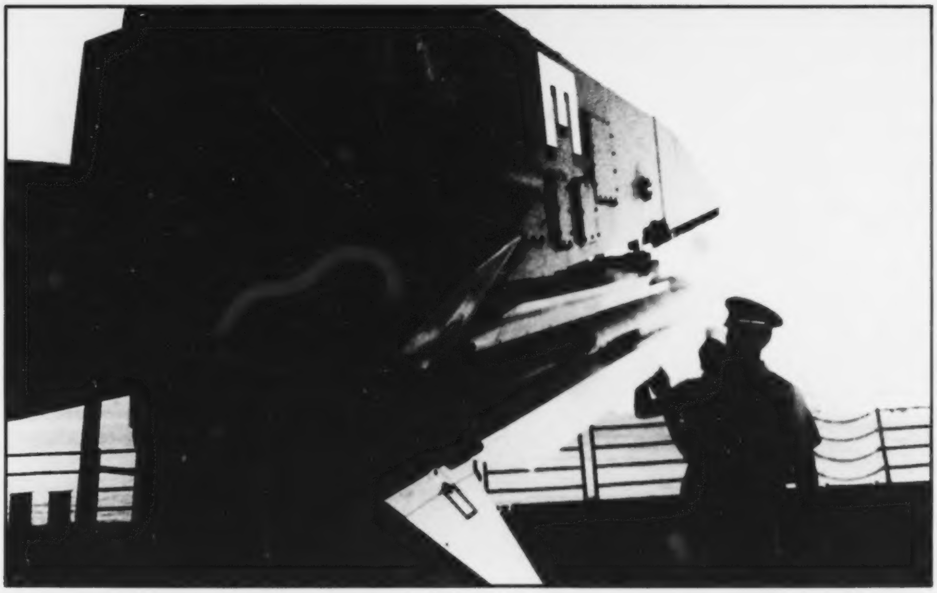
Further training occurs on the job and through advanced courses.

Civilian Counterparts

Although the job of missile system officer has no equivalent in civilian life, the leadership skills it provides are similar to those used in many civilian occupations.

Opportunities

The services have about 5,280 missile system officers. On average, they need 440 new officers each year. After job training, new missile system officers normally learn the details of missile operations by focusing on one aspect at a time under the direction of experienced officers. In time, they manage one or more divisions at a missile site, assuming more responsibility. Eventually they may advance to senior management and command positions in missile operations or other areas in their service.



SPECIAL OPERATIONS OFFICERS

Army
Navy
Air Force
Marine Corps

Each service has specially trained forces to perform rapid strike missions. These elite forces stay in a constant state of readiness to strike anywhere in the world on a moment's notice. Special operations officers lead special operations forces in offensive raids, demolitions, intelligence gathering, and search and rescue missions. Due to the wide variety of missions, special operations officers are trained swimmers, parachutists, and survival experts.

What They Do

Special operations officers in the military perform some or all of the following duties:

- Train personnel in parachute, scuba diving, and special combat techniques
- Plan missions and coordinate plans with other forces as needed
- Train personnel for special missions using simulated mission conditions
- Lead special forces teams in accomplishing mission objectives
- Direct and supervise administrative activities of special forces units

Physical Demands

Special operations officers must meet very demanding physical requirements. Good eyesight, night vision, and physical conditioning are required to reach mission objectives by parachute, over land, or under water. Good eye, hand, and finger coordination are required to detonate or deactivate explosives. In most instances, special operations officers are required to be qualified swimmers, parachutists, and endurance runners.

Special Requirements

A 4-year college degree is normally required to enter this occupation. Selection as a special operations officer is very competitive. This occupation is not open to women.

Helpful Attributes

Helpful fields of study include physical education, engineering, physical sciences, history, and business or public administration. Helpful attributes include:

- Ability to remain calm and decisive under stress
- Willingness to accept a challenge and face danger
- Willingness to stay in top physical condition
- Determination to complete a very demanding training program

Work Environment

Because special operations officers must be prepared to go anywhere in the world they are needed, they train and work in all climates, weather conditions, and settings. They may work in cold water and dive from submarines or small underwater craft. They may also be exposed to harsh temperatures, often without protection, during missions into enemy controlled areas.

Training Provided

Job training consists of up to 20 weeks of formal classroom training and practical experience. Training length varies depending on specialty. Course content typically includes:

- Physical conditioning, scuba diving, swimming, and parachuting
- Mission planning techniques
- Handling and using explosives
- Reconnaissance techniques

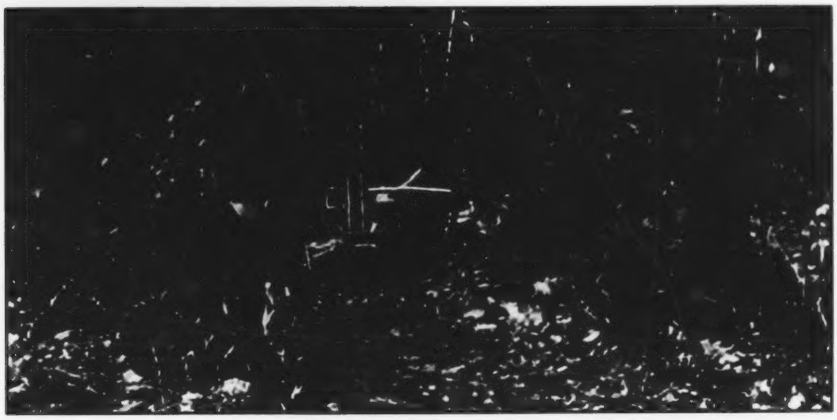
Additional training occurs on the job. Basic skills are kept sharp through planning and conducting exercises under simulated mission conditions.

Civilian Counterparts

Although the job of special operations officer has no equivalent in civilian life, the leadership and administrative skills it provides are similar to those used in many civilian management occupations, particularly law enforcement.

Opportunities

The services have about 1,840 special operations officers. On average they need 130 new special operations officers each year. After training, special operations officers usually assist commanders in directing special operations forces. After demonstrating leadership ability, they may assume command positions.



TANK OFFICERS

Army
Marine Corps

In peacetime, tank and armor units stay ready to defend the country anywhere in the world. In combat, they operate tanks, armored vehicles, and amphibious assault vehicles to engage and destroy the enemy. Tank officers lead tank and armor units. They normally specialize by type of tank unit, such as armor, cavalry, or amphibious assault.

What They Do

Tank officers in the military perform some or all of the following duties:

- Gather and evaluate intelligence or enemy strength and positions
- Formulate battle plans
- Coordinate actions with infantry, artillery, and air support units
- Plan and direct communications
- Direct operations of tanks, amphibious assault vehicles, and support equipment
- Plan and supervise tactical and technical training of a tank unit
- Direct unit administrative activities

Helpful Attributes

Helpful fields of study include engineering, geography, physical sciences, history, and business or public administration. Helpful attributes include:

- Ability to motivate and lead others
- Willingness to accept a challenge and face danger
- Decisiveness
- Interest in tanks and battlefield strategy

Work Environment

Tank officers work and train in all climates and weather conditions. To remain ready for combat, tank units must regularly train under simulated combat conditions. During these exercises, tank officers are on the move, working, eating, and sleeping outdoors and in tents. When not in training, tank officers perform administrative duties in offices.

Training Provided

Job training consists of between 4 and 20 weeks of classroom and field training. Training length varies depending on specialty. Course content typically includes:

- Weapons and equipment maintenance
- Tank and armor operations, principles, and tactics
- Night maneuvers
- Role of the platoon leader

Further training occurs on the job and through specialized courses.

Physical Demands

Tank officers must meet the same demanding physical requirements as the troops they command. They must be physically fit and able to hold up under the stress of combat conditions.

Special Requirements

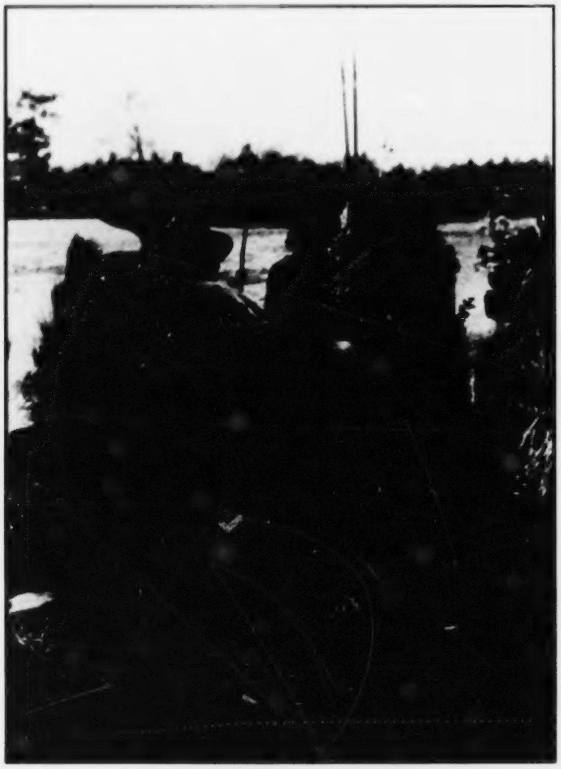
A 4-year college degree is normally required to enter this occupation. This occupation is not open to women.

Civilian Counterparts

Although the job of tank officer has no equivalent in civilian life, the leadership and administrative skills it provides are similar to those used in many civilian managerial occupations.

Opportunities

The services have about 6,660 tank officers. On average, they need 660 new tank officers each year. New tank officers are assigned to tank and armor units as platoon leaders. Advancement in armor is based on ability to lead. Tank officers with proven ability to lead may assume command positions.



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Indexes

DOT Code Index (by DOT Number)

This index lists civilian counterparts to the 205 military occupations described in the *Military Career Guide*. The civilian occupations are listed in numerical order by their *Dictionary of Occupational Titles* (DOT) codes. The DOT, published by the U.S. Department of Labor, defines and classifies over 12,000 civilian occupations found in the U.S. labor force. Civilian occupations involve performance of essentially the same tasks and require the same knowledge, skills, and abilities as their counterpart occupations in the military.

The page number listed for each DOT code and title indicates the location of that military occupational description in the *Military Career Guide*. This index is useful when you know a DOT code and want to find out whether it has a military counterpart. The index is also useful as a general reference list of civilian occupations that have military counterparts described in the *Military Career Guide*.

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DOT Code Index (by Occupation)

This index lists civilian counterparts to the 205 military occupations described in the *Military Career Guide*. (The organization of this index is similar to the organization of the military occupations in the Table of Contents.) Below each military occupation, the counterpart civilian occupations are listed according to their *Dictionary of Occupational Titles* (DOT) codes.

The DOT Code Index is useful when you want to find civilian counterparts to the military occupations described in this guide. Knowledge of how military training and employment relates to civilian employment may be helpful in career planning. DOT codes may also be used to help locate additional information in other publications about any civilian counterpart occupation (for example, the *Dictionary of Occupational Titles* and *Occupational Outlook Handbook*).

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137.267-018	TRANSLATOR

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143.062-034	PHOTOJOURNALIST
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131.267-010	NEWSCASTER
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132.017-010	EDITOR, MANAGING, NEWSPAPER
132.017-014	EDITOR, NEWSPAPER
132.037-018	EDITOR, DEPARTMENT
132.037-022	EDITOR, PUBLICATIONS
132.267-014	EDITORIAL ASSISTANT
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078.362-018	ELECTROCARDIOGRAPH TECHNICIAN
078.362-022	ELECTROENCEPHALOGRAPHIC TECHNOLOGIST
078.362-030	CARDIOPULMONARY TECHNOLOGIST

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078.361-010	DENTAL HYGIENIST
079.371-010	DENTAL ASSISTANT

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078.221-010	IMMUNOHEMATOLOGIST
078.281-010	CYTOTECHNOLOGIST
078.361-014	MEDICAL TECHNOLOGIST

078.361-030	TISSUE TECHNOLOGIST
078.381-010	MEDICAL-LABORATORY ASSISTANT
078.381-014	MEDICAL-LABORATORY TECHNICIAN

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205.362-030	OUTPATIENT-ADMITTING CLERK
245.362-010	MEDICAL-RECORD CLERK
245.362-014	WARD CLERK

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079.364-018	PHYSICIAN ASSISTANT
079.367-010	MEDICAL ASSISTANT
079.367-018	MEDICAL-SERVICE TECHNICIAN
079.374-010	EMERGENCY MEDICAL TECHNICIAN
199.682-010	AEROSPACE PHYSIOLOGICAL TECHNICIAN
355.374-014	MEDICATION AIDE

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079.374-026	PSYCHIATRIC TECHNICIAN
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078.361-022	ORTHOTICS ASSISTANT
712.381-034	ORTHOTICS TECHNICIAN

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074.387-010	PHARMACY HELPER

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076.224-010	PHYSICAL THERAPIST ASSISTANT
076.264-010	PHYSICAL-INTEGRATION PRACTITIONER
355.354-010	PHYSICAL THERAPY AIDE

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078.361-034	RADIATION-THERAPY TECHNOLOGIST
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912.167-010	DISPATCHER

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194.282-010	VIDEO OPERATOR
194.362-010	RECORDING ENGINEER
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962.382-010	RECORDIST
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059.267-014	INTELLIGENCE SPECIALIST
193.362-014	RADIO-INTELLIGENCE OPERATOR
193.382-010	ELECTRONIC INTELLIGENCE OPERATIONS SPECIALIST
199.267-014	CRYPTANALYST
249.387-014	INTELLIGENCE CLERK
378.267-010	COUNTERINTELLIGENCE AGENT
378.382-010	AIRBORNE SENSOR SPECIALIST
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018.261-014	DRAFTER, TOPOGRAPHICAL
018.261-018	EDITOR, MAP
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193.382-010	ELECTRONIC INTELLIGENCE OPERATIONS SPECIALIST

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193.262-034	RADIOTELEPHONE OPERATOR

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828.281-010	ELECTRONICS MECHANIC

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018.167-038	SURVEYOR, GEODETIC
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025.267-014	WEATHER OBSERVER
248.362-014	WEATHER CLERK

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216.382-022	BUDGET CLERK
216.382-034	COST CLERK
216.382-062	STATISTICAL CLERK
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639.281-010	AVIATION SUPPORT EQUIPMENT REPAIRER
806.281-054	TESTER, PLUMBING SYSTEMS
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ASVAB Index

This index groups the 134 military enlisted occupations described in the *Military Career Guide* under the four ASVAB (Armed Services Vocational Aptitude Battery) Occupational Groups: (1) Mechanical and Crafts; (2) Business and Clerical; (3) Electronics and Electrical; and (4) Health, Social, and Technology.

The ASVAB Index is a convenient reference for locating the page numbers of all the enlisted occupations that relate to a particular ASVAB Occupational Group. For example, a person whose highest ASVAB Occupational Score is in the Electronics and Electrical group may quickly locate the page numbers of all military enlisted occupations that fall under the Electronics and Electrical group.

To estimate your chances of having the aptitude needed to qualify for training in one of the enlisted military occupations described in this guide, use the ASVAB graph at the bottom of that occupational description. (The ASVAB graph is explained on pages 4 to 6 of this book. This index and the ASVAB graphs are useful only if you have taken the ASVAB and received your results sheet.)

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Title Index

This index is an alphabetical listing of occupational titles that represent military occupations described in the *Military Career Guide*. The page number listed next to each title indicates where the occupation is described. The titles in capital letters and bold print are the main titles of the 205 military occupations described in this book. The remainder of the titles are alternate names for these occupations or specialties within them. The alternate titles were drawn from several sources including: (1) *Dictionary of Occupational Titles* occupations; (2) titles found in civilian career information resources, such as the *Occupational Outlook Handbook* and computerized career information delivery systems (CIDS); and (3) commonly used job titles.

The Title Index is useful if you know the name of an occupation and want to find out whether it is available in the military. For any title listed in the index, you can read the description of what the occupation is like in the military by turning to the page number listed next to it. If you do not find the exact title you are interested in, try to find a similar title under which the same occupation might be listed.

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